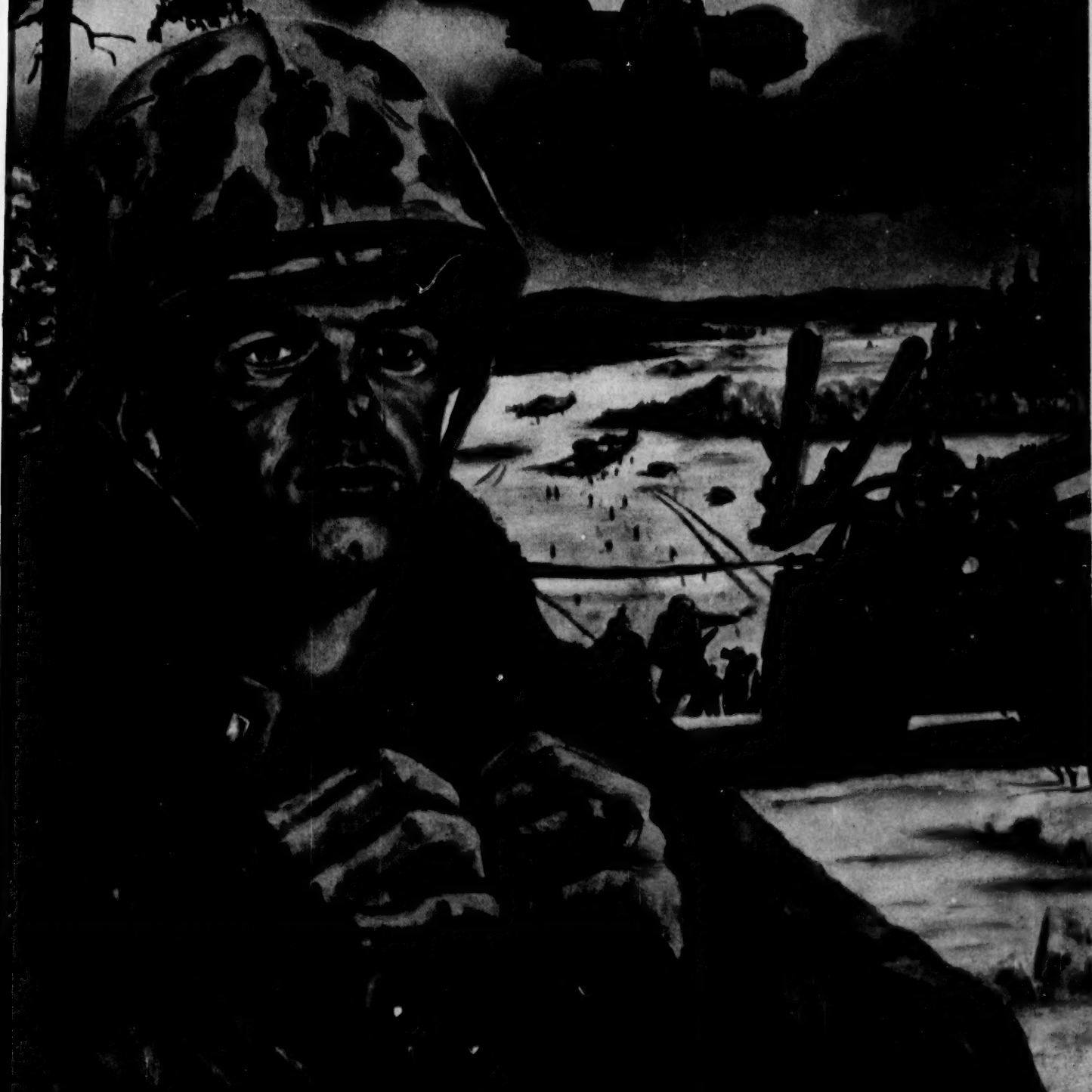


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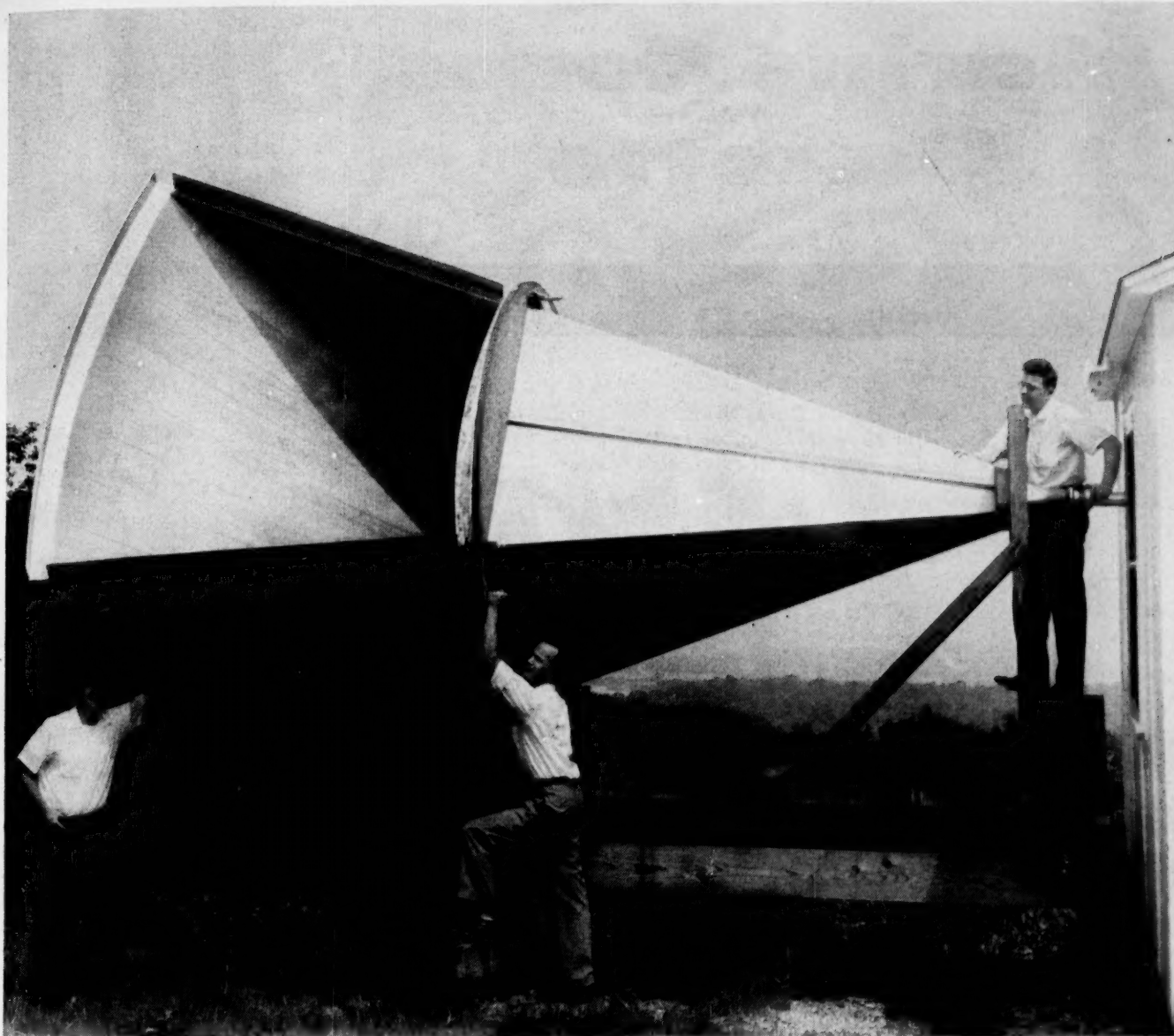
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At Bell Laboratories, Holmdel, N. J., a horn reflector antenna is beamed skyward by scientists Edward Ohm, David Hogg and Robert DeGrasse. The maser amplifier, which employs a ruby cooled in liquid helium, is inside building at right. Over-all "noise" temperature of antenna, amplifier and sky is only 18°K at 5600 megacycles.

ANOTHER STEP TOWARD SPACE COMMUNICATIONS

The above antenna is part of a new ultra-sensitive radio receiving system under development at Bell Telephone Laboratories. It has extraordinary directivity. Beamed skyward, it ignores radio "noise" from the earth, yet picks up extremely weak signals from outer space.

The signals are amplified by the latest Bell Laboratories "maser" amplifier. The maser principle was first demonstrated, using gas, by Prof. C. H. Townes and his collaborators at Columbia University. Bell Laboratories scientists applied it to the solid state guided by a theoretical proposal of Prof. N. Bloembergen of Harvard University. Their latest traveling wave maser amplifier employs a ruby mounted in a waveguide. The ruby is excited to store energy. As signals pass through, they absorb this energy and are thus amplified.

The device uniquely combines the characteristics needed for practical space communication: extremely low inherent noise and the ability to amplify a broad frequency band.

At present the receiving system is being used to pick up and measure minute radio noise generated by the atmosphere. It also foreshadows important advances in long distance communications. For example, it could extend the range of space-probe telemetering systems, could help make possible the transatlantic transmission of telephone and TV signals by bouncing them off balloon satellites—and has numerous applications in radio astronomy and radar.

This pioneer development in radio reception is one more example of the role the Bell System plays in the pursuit of better communications technology.

BELL TELEPHONE SYSTEM



Marine Corps Gazette

DECEMBER 1959

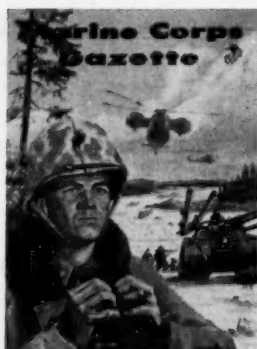
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THIS MONTH'S COVER . . . A Forward Air Controller—vital link between Air and Ground. Painting by ASSgt William Tipton, LEATHERNECK artist.

PUBLISHED MONTHLY BY THE MARINE CORPS ASSOCIATION

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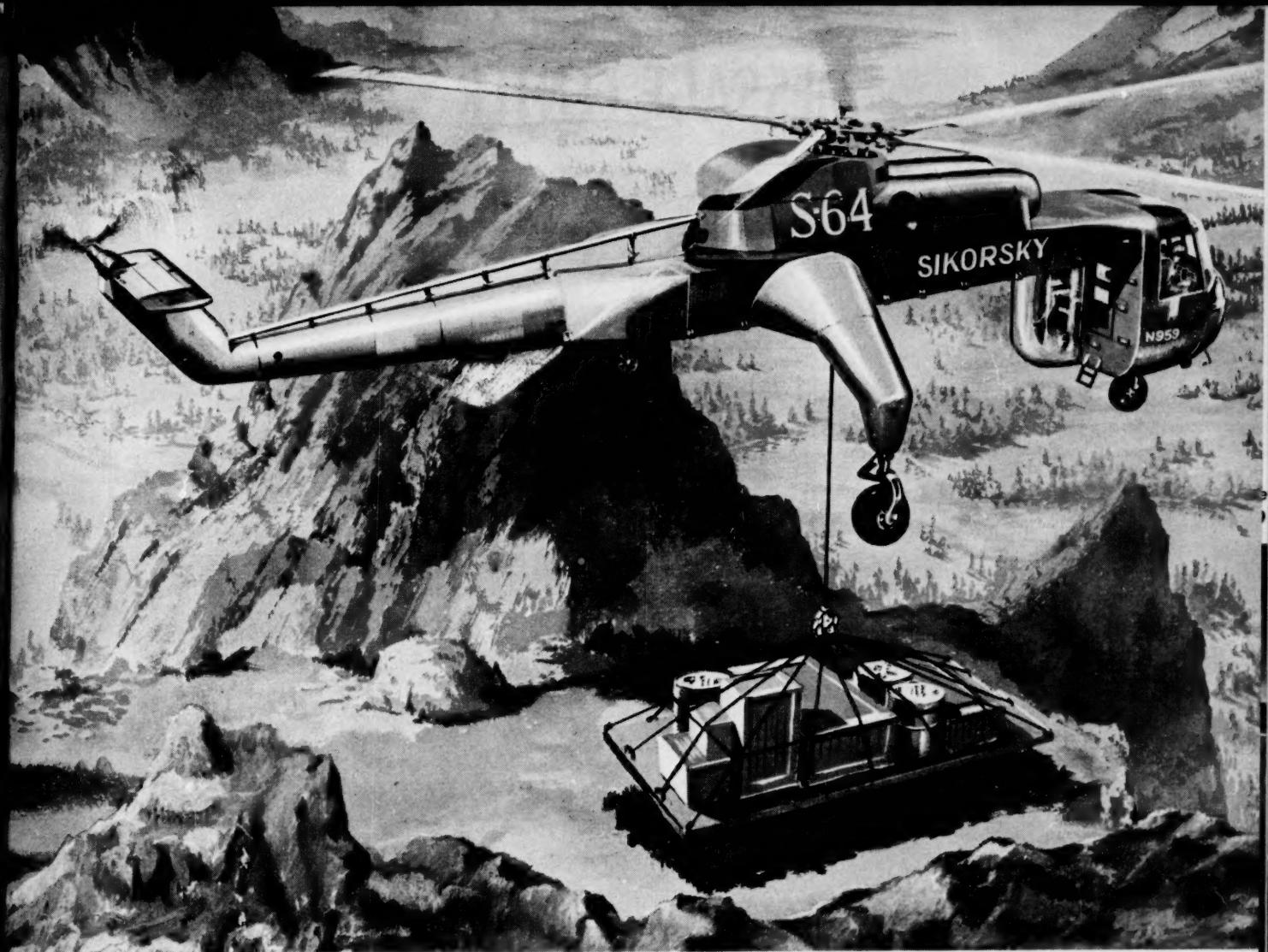
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Sikorsky S-64
— new 8-ton
payload
turbine-powered
flying crane

HIGH CAPACITY—With an 8-ton payload, Sikorsky's new S-64 turbine-powered crane, will carry *three tons more* than the experimental S-60. It is the first in a new family of Sikorsky turbocranes designed to carry up to 40 tons.

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FIRST FLIGHT—The first S-64 is programmed for flight in the fall of 1960.

SIKORSKY AIRCRAFT, Stratford, Connecticut
A division of United Aircraft Corporation



MESSAGE CENTER

For letters of professional interest. Length: up to 250 words. Rates: up to \$20.

Setting the Record Straight

... I have just received the September GAZETTE and find that Capt Frank Zimolzak objects to hip firing (*Message Center*).

Someone procured a picture of me (circa 1940) with the JLMG, Col Chinn put it in *The Machine Gun* (BuOrd), and the GAZETTE logically picked it up. I must have been showing hip fire in a moment of weakness.

The ironical fact is that I have always regarded hip firing of small arms such as



Sabby Frinzie

my LMG or the new M-14 as sheer, utter nonsense—except possibly at 10 feet or so, especially in the dark. May I commend Capt Zimolzak; I do not go in for hip shooting and should never have posed that shot, nor let it out.

Enclosed is a photo of my recommended position for standing, fast semi-automatic fire. Your readers will note the bolt is closed for semi-automatic, not open on full automatic as in photo you used for *Two Rounds: One General, One Horse* (GAZETTE: Aug '59). This photo shows position of feet vs. fast semi-automatic recoil.

Old timers may note my USMC shooting coat, issued to me by the Marine Corps Rifle Team in 1939. It is still going strong 20 years after, and I would wear no other.

This 1941 issue JLMG, '30-36, was actually developed out of the 1936-39 Johnson semi-automatic rifle in 1939-40. These guns first saw 1stMarDiv combat on Gavutu and Guadalcanal in August 1942; were later used by Army 1stSpecServFor, etc. Gun weighs 12.5 lbs.; 25-shot.

M. M. Johnson, Jr.

New Haven, Conn.

HEADQUARTERS, 7TH MARINES
1ST MARINE DIVISION,
(REINF), FMF
CAMP PENDLETON, CALIF.

6/rfw
12 Nov 59

From: Commanding Officer
To: Commanding Officer, 8th Marines, 2dMarDiv, Camp Lejeune, N. C.

Via: (1) Marine Corps Association
Subj: Mailing Envelope, Manila, 10x15, return of
Ref: (a) Message Center (GAZETTE: Sept '59)

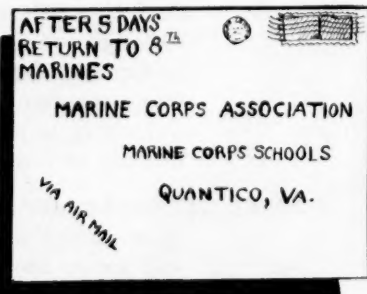
Encl: (1) Subject envelope w/photo

1. Enclosure (1), which apparently belongs to your command, was found among the trophies awarded to the "Best Rifle Squad in the Marine Corps" (1st Sq, 3d Plt, C Co, 1st Bn, 7th Marines), recently returned from Quantico after winning the All-Marine Corps Unit Combat Marksman-ship Competition.

2. It appears the envelope may be the same one shown in reference (a). Although obviously obsolete, it is returned herewith in the interests of orderly procedure.

3. Inside enclosure (1) is an 8x10 glossy print of the plaque which is the first place award of the above mentioned competition. Since it is intended that the plaque itself will remain with this command indefinitely, the photo may serve to keep the memory of the trophy in the 8th Marines.

/s/ H. Stiff



Enclosure (1)

FIRST ENDORSEMENT

From: Marine Corps Association
To: All commanding officers
Via: Message Center

1. Readdressed and forwarded for information.

2. The MCA notes basic correspondence but disclaims responsibility.

Birthday Cake

... Congratulations on MajGen Stickney's article *USMCR ... Amateur or Professional*. This article in the November issue could not have been more timely or appropriate.

So to all hands—Front and Center!—to a terrific article.

LtCol Matthew Waska, USMCR
West Brownsville, Pa.

... and the Icing

... Congratulations on your Nov '59 issue. It's the best I've seen in more than 22 years.

Maj L. J. Sarter

1&1, 100th Rifle Co
Key Field, Meridian, Miss.

Low Carrying Charges

... In his article, *Transportation: Basis of Power* (GAZETTE: Oct '59), Dr. Sokol quotes a rule of thumb showing the cost of sea, land and air transportation in the relation of 1:10:100. Actually air now costs about four times that of sea transportation. One commercial carrier and one manufacturer now estimate air cargo cost at less than four cents per ton mile using turbo-prop equipment. This would change the quote of Adm Gallery to read \$36 to send a ton of cargo to England by sea and \$120 by air (New York to London).

None of this changes the author's story. It only emphasizes that air transportation has increased in relative importance, and that it is still improving. Capabilities continue to increase and costs continue to come down.

LtCol R. J. Ofstad

MWSG-37, 3dMaw
MCAS, El Toro, Calif.

Ed: You'll be interested in the Naval Research Logistic Quarterly, which has an updated study along the same lines. It compares 20-knot Mariner class cargo ships and "super-cargo" transport aircraft. Conclusions: 10,950 planes using 157.6 million long tons of fuel vs. 846 ships using 9.3 million tons for global coverage; also, the need for heavy lift is increasing faster than aircraft capacity.

Shh! Not Too Loud

... I find it hard to agree with Capt Cooper in his excellent article on the Ontos (GAZETTE: Sept '59) when he states that this vehicle can effectively out-range a heavy tank. I was expected to hit a tank target at 2,500 yards with my second or third round in 20 to 25 seconds after sighting; this with a medium not fitted with a range-finder. Can Ontos duplicate this?

A good tank is an all-purpose fighting vehicle, its weapons designed for equal effectiveness against both enemy armored vehicles and personnel. Sometimes it is found necessary, as with the Ontos, to create a vehicle with the antitank capability alone. Why is this? Because the tank is too big. It cannot be air-landed, takes up a great deal of shipping space, burns a lot of fuel and it is darned expensive.

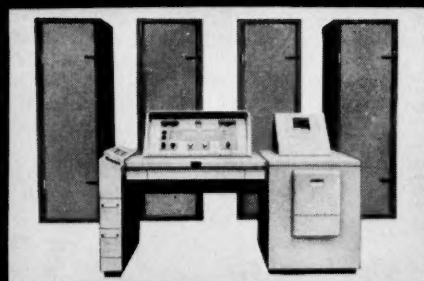
For antitank work there are three possible systems: a) The recoilless gun firing a squash-head or shaped charge projectile at low velocity, which means poor accuracy and a bad "give-away" flash. b) The high velocity 105mm gun, firing a tungsten carbide projectile with discarding sabot. This has fair accuracy. c) The wire-guided missile, with nearly 100 per cent accuracy at ranges far beyond those of other weapons.

(Continued on page 6)

**The Checkout
that says
"GO" or "NO GO"**

APCHE

(Pronounce
"AP-SHE")



APCHE (Automatic Programmed Checkout Equipment) is a solid-state, universal, high-speed, highly reliable, compact general-purpose tester designed especially for automatic checkout of aircraft, missile and space systems and their supporting systems. In its various versions (differing in input media, size and weight) APCHE installations may be fixed, mobile, airborne or submarineborne. APCHE was designed and is being produced as a part of RCA's ground support electronics subcontract from the Convair (Astronautics) Division of General

Dynamics Corporation, prime contractor for the ATLAS Intercontinental Ballistic Missile.

The system being supplied to Convair for the ATLAS Program includes a console and four rack cabinets providing both analog and discrete test functions with a resulting printed and GO-NO GO indication. As a product of RCA's Missile Electronics and Controls Department, Burlington, Massachusetts, APCHE is one of the latest RCA developments in the field of military weapon readiness equipments.



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[Continued from page 4]

All have the present capability of destroying any tank likely to be developed at maximum combat ranges, if they can hit. I submit that the missile is by far the best bet for a purely antitank vehicle. The standard British missile, Malkara, to be fired from a light armored vehicle, fully air-transportable, has a 60-pound shaped-charge warhead, weighs 200 pounds, and is more than 95 percent accurate at a range of two miles. Can Ontos compete with this?

At the same time, the high velocity gun with its fairly good antitank capacity, excellent HE performance and ammunition capacity, seems still the best choice for the general purpose fighter, the tank. It is worthy of note that British, Russians and the Swiss all have prototype or production tanks mounting guns in this class, and doing it with a total weight of about 30 tons.

There will probably be a requirement for a specialized self-propelled antitank system for a long time yet, and while Ontos is provided it is just as well to make sure that it is used in the optimum manner, which will probably be different than that required of tanks. Just one point, though: if we say too loud just how good Ontos is, people may believe us and not provide the far better weapons which may shortly be available.

Philip Barker

Birmingham, England

Target: Missile Report—1959

... In his article *Missile Report—1959* (GAZETTE: Nov '59), Capt Newton states "... the Ontos ... is not ideally suited for its present role." And there he drops the matter without saying why. This is like

a trial counsel telling the Court a man is guilty and then not presenting any evidence to prove it.

Additionally, it should be noted that the testing of the SS-10 missile was done by the 1stMarDiv's Antitank Bn, not the 1st Tank Bn as stated.

Maj D. A. Silva

1st Antitank Bn
Camp Pendleton, Calif.

Ammunition From the CO

... To antitank man Silva's comments—Amen. If Capt Newton means that the M-50 is only an interim weapon, as is often loosely stated, what weapon isn't? I say the present antitank battalion is organized and equipped to perform its role as ideally as any of the other major units of the Marine division.

Also, the organization has considerable growth potential through the medium of better rifles, better ammo and integration of missiles in the structure. As future developments take place, the advent of the "ideally suited weapon(s)" will be awaited with bated breath.

LtCol M. J. Sexton

CO, 1st Antitank Bn
1st MarDiv (Rein), FMF
Camp Pendleton, Calif

Wrong 'Key'

... I submit there is nothing funny about Col R. M. Wood's anecdote "Key to Manpower" (GAZETTE: Oct '59). ... If Jones isn't a "key" private, he isn't needed and his billet shouldn't be in the T/O.

LtCol D. D. Nicholson (Ret)

11011 Cathcart St.
Jacksonville 11, Fla.

Mud In Your Eye

... If the Marines go to Laos, watch out for the wasps!

One species will pack a rifle barrel with a mud nest in just a few minutes. Fire, and the barrel blows up.

Anyone who has hunted in Indo-China can verify this.

Col Boris d'Adamovitch Leliwa
(formerly Imperial Russian Cossacks)
Winchester, N. H.



Comments on Contents

... It is true that a professional magazine should keep its readers informed in their field and assist them in their profession. To include items Maj Maloney wants (*Message Center*: Oct. '59) would, I fear, make the GAZETTE less professional and more of a news-letter type, quasi-military publication. While these journals report, the Gazette stimulates. I'm for the Gazette remaining as it is.

1stLt R. O. Broad, Jr.

Hq 5th MCRRD
Washington, D. C.

A Real, Live Exception

... I could not disagree more with Sgt Puckett in his article "Why Not a Shoot-out?" (*Observation Post*: Oct '59).

I was in the Marine Corps from 1950 to 1953 and since then have been a police officer. A member of the National Rifle Association, a gun collector, a target shooter and an amateur gunsmith, I feel I am qualified to discuss or disagree with him on this topic.

Now, in answer to his statement: "I challenge any of my readers to remain standing after being penetrated by a .38cal Special round."

I don't think I could; however, about a year ago it was necessary for me to do combat with a 58-year-old man at a range of 12 inches or less. With a .38 Special with 4-inch barrel I shot him five times, twice in the head, twice in the stomach, once in the left leg. This man is in prison today but very much alive. It might have made a difference if I had used high speed type shells; not much, however, with the short 2- and 4-inch barrel.

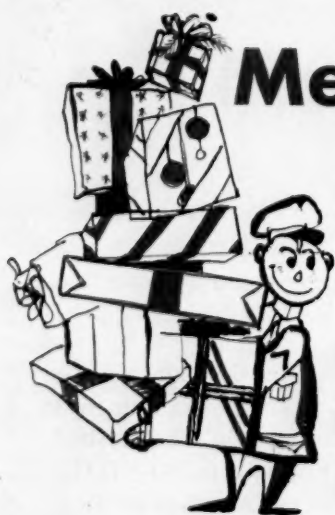
But have you heard of a man living with more than one .45cal slug in him? I haven't.

R. J. Segan

Chicago 9, Ill.

(Continued on page 8)

Marine Corps Gazette • December 1959



Merry Christmas!

I'VE NO WORRIES—
I WAS A MEMBER
OF THE FIRST NATIONAL
BANK CHRISTMAS
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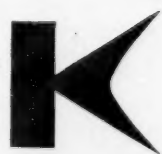
1959 ☆

"Serving the Corps for 35 years"



1951 First to fly a shaft turbine helicopter anywhere.
1954 First to fly a helicopter powered by twin turbines.
1956 Kaman flew the first helicopter to be powered with a gas turbine designed specifically for helicopters.
1959 Kaman converts its production 100 percent to turbine powered helicopters, becoming the first major helicopter company to take this forward step.

THE YEARS BEHIND PUT US YEARS AHEAD IN TURBINES



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(Continued from page 6)

Short Shirted

... Many Marines are happy about the coming of the short sleeve shirt, but I wonder just how many of us will benefit? The shirt may be worn only on base and to and from quarters.

This means that office clerks, who usually don't work in utilities, and married personnel will be the only ones who will have occasion to wear the new shirt. What about the unmarried infantry private? He spends his day in the field in utilities. If he goes on liberty he must wear itchy tropicals or civilian clothes. More than likely he will choose the latter.

And what about the recruiter? He's supposed to look like he just left a press shop.

Unless he changes uniform four times a day, this is nearly impossible. Would the public be so terribly shocked if he wore a short sleeve shirt? I don't think so.

The short sleeve shirt is a step in the right direction. Let's give all Marines a chance to wear it by making it a standard uniform for liberty and recruiting in hot weather.

MCRSS
Ottumwa, Iowa

ASSgt J. R. Fry

An Invitation

... While applauding the bravura which prompted Maj M. P. Newton's comment (*Message Center*: Sept '59) on my article, *If It Comes To It*, I would like to emphasize that quite a lot of military virtue is

AUTHOR SEEKS INFO

Mr. Robert Leckie (*Helmet For My Pillow*) is writing a book on the breakout from the Chosin Reservoir. He'd like to hear from Marines who made the march. His address: 281 Morris Avenue, Mountain Lakes, N. J. Marines in the Metropolitan area are invited to telephone DEerfield 4-2614.

to be found in the recommendation *reculer pour mieux sauter*.*

As, alas, there is very little likelihood of my ever visiting Quantico again—let alone being privileged to lecture there—I can only suggest that if Maj Newton ever finds himself in England I should be very happy to argue the matter out with him at my Club over a bite of food and whatever he finds appropriate to go with it.

Reginald Hargreaves

Wooton St. Lawrence
Nr. Basingstoke, England

Ed: *Move back to jump farther.

Fur Flaps for Pith Helmets

... In connection with the suggestion of Capt M. B. Reilly in his letter (*Message Center*: Oct '59) to permit the wearing of winter or summer garrison caps with utilities, it might be of interest to note that uniform regulations for Marines stationed in the Washington, D. C., metropolitan area have specified this combination for the past year.

Troop reaction seems to be generally favorable to use of the winter service garrison cap, but opposed to the summer one. The winter cap will not show dirt too quickly and the eyeshade feature of the utility cap is of minimum importance during the winter. It leaves much to be desired in foul weather, but then the utility cap is a long way from being perfect.

The khaki garrison cap has numerous drawbacks. Men working outdoors found it objectionable because it did not shade their faces. Worse yet, it was quickly soaked beyond recognition with perspiration. Also it became unwearable after being handled a few times.

I would suggest that the winter cap be worn year-round.

Maj G. C. Fox

H&S Co, HqBn
HQMC

...

... Capt Reilly's recommendation brings back some not so fond memories when those regulations were in effect.

Stomping through the boondocks of Camp Elliott during the winter, spring and summer of '43 convinced me that the winter service cap could absorb more rain than anything comparable in size and could become the coldest and soggiest mess imaginable.

Meanwhile, the sun-bleached summer service garrison cap allowed the eyeballs to get sunburned, although it did give a night patrol leader visible control of his men with the bobbing white blobs of the caps his patrol was wearing—that is, those who hadn't lost them in the underbrush. Daytime observation can be corrected when wearing these caps by using the cupped hand as an eye shield, Indian style. But this might not work so well at the rifle range.

1stSgt A. B. Kouma

MS&M Bn
1st FSR, FMF
Camp Pendleton, Calif.

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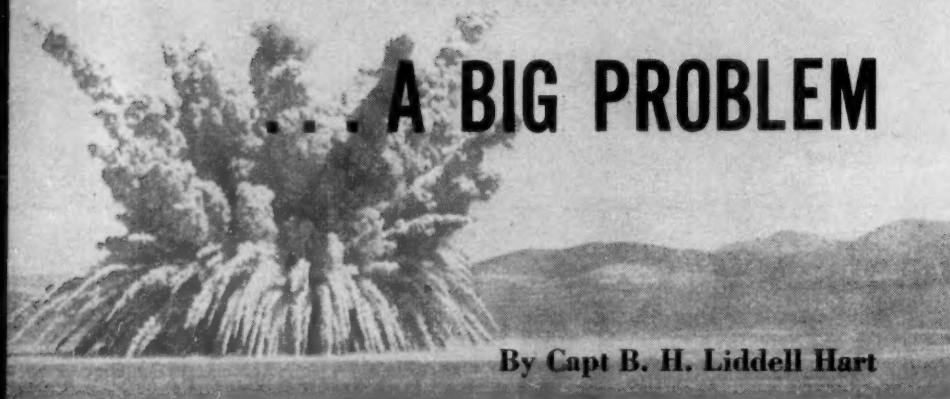
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**YOUR
Membership?**

SMALL ATOMICS



... A BIG PROBLEM

By Capt B. H. Liddell Hart

THE WHOLE PROBLEM OF DEFENSE is being radically affected, and potentially changed, by the recent development of small-yield atomic weapons. These may even bring about a fresh revolution in warfare, of different effect from that produced by the advent of atomic weapons in 1945, and subsequently by the hydrogen bomb.

Until 1945, the most powerful and destructive bomb produced had a weight of less than 10 tons. The first atomic bomb, dropped on Hiroshima in August 1945, had an explosive force nearly two thousand times as great. It created an immense gulf between atomic and what are called "conventional" weapons.

Then came another enormous jump in destructiveness with the development of the hydrogen bomb. For in 1954 the United States tested a thermo-nuclear weapon with an explosive force equivalent to nearly 20 million tons—a thousand-fold multiplication of the power of the original atomic bomb!

But now the latest developments have gone in the opposite direction towards producing atomic weapons of very small size and very limited explosive force. For among the nuclear weapons tested in Nevada last

autumn were seven that had an explosive yield of less than 100 tons. One of them had an explosive yield of only 36 tons, and another only 6 tons—less than that of the ordinary large bomb dropped by aircraft in the latter part of WWII.

Why are such small-yield atomic weapons being developed? What are the particular advantages claimed

Small nations are more likely to resist threats of aggression if they feel they can repel the invader without having their homeland devastated.

for them? The first is that they turn the military use of nuclear power from a blind means of "mass destruction" into a weapon of precision and discrimination. They can be used tactically, by troops in battle, without devastating the towns and cities in the area where they are employed.

That is potentially a great gain in humanity and benefit to civilization. It is also a safeguard to the morale of the people of the country

for whose defense they are used. Small nations are more likely to be firm in resisting enemy threats and aggression if they feel that there is a good chance of invasion being repelled without having their homeland devastated in the process of defense.

From the military point of view, there is also a great advantage in the prospect of being able to produce as much killing effect, and destructive effect on fortified defenses with a single artillery piece as has hitherto required scores or hundreds of guns. Moreover, the effect of even a very small nuclear burst is so much greater than any ordinary shell-burst that a single shot may achieve more, both materially and morally, than a prolonged bombardment or barrage of the normal kind—which calls for a lavish and continuous supply of ammunition.

Thus there could be a very great economy, by reduction, in the quantity of guns, of ammunition, of transport vehicles to carry the ammunition, and of fuel to move the transport vehicles—as well as of shipping, in the case of military forces that have to be sent, and maintained, overseas.

Such a great reduction in weapon and supply needs would go far to simplify and diminish the logistical problems of armies—which have been causing an increasingly heavy headache to military planners. The "tail" of an army could become very small compared with its present bulk.

The "teeth" as well as the tail would be much less vulnerable than at present. A handful of nuclear-firing guns, well distributed, would be a very slight target compared with a mass of batteries firing ordinary shells. The need for large ammunition dumps and depots for their supply, likewise forming extensive targets, would also be eliminated.

Tactically, the prospective advantages of small-yield atomic weapons are that they allow much more

... there could be great economy in the quantity of guns, ammunition and vehicles in the case of military forces stationed overseas ...

... but logistical and financial economy promised can be attained only if governments take the risk and discard conventional weapons and rely on a small quantity of small-yield atomics.

discrimination, that they enable acceleration of action in engaging targets, that they can be profitably used against much smaller targets, and—what is most important—can be employed much closer to one's own troops than has been possible with the large tactical atomic weapons of the 10-20 kiloton range hitherto in vogue.

There is a great tactical advantage in being able to fire at enemy troops until they are within a few hundred yards of one's own, compared with the drawback of having to cease fire when the enemy are a mile or more away. For if there is such a wide stretch of "dead ground"—i.e. ground against which nuclear weapons cannot be used—an attacker may be able to arrive there by stealth and dispersed approach, and then have a good chance of assembling sufficient strength, in this "nuclear-safe" belt, to break into the defense. Once he has broken in, it would hardly be possible for the defending forces to use large-yield tactical atomic weapons to stop his continued penetration of the area they themselves are occupying.

Moreover, present means and methods of locating and engaging targets suitable for large-yield nuclear weapons are apt to be much too slow to catch them before they disappear. At night, the difficulty is still worse. But these means and methods of what is called "target acquisition" would have a better chance with small-yield weapons employed at close range.

With the present tactical atomic weapons of 10 to 20 kilotons it would hardly be worthwhile to use them against targets smaller than a brigade or regiment. But with the small-yield weapons now in prospect, units as small as a platoon may become atomic targets. The United States may already have atomic warheads as small as five inches in diameter, and has developed infantry mortars that can fire atomic shells. These are easily handled by a few men. One of these new types is called the Davy Crockett.

What are the disadvantages of the development of such small-yield atomic weapons? In the first place, they are a very uneconomic form of nuclear power. Limited explosive yield is only possible through using fissile material as *inefficiently* as possible. That technical disadvantage, however, may be offset by the tactical and logistical advantages, as well as by wider considerations. Weighed together, they promise an "economy of force" that much outweighs the technically uneconomic process of producing small-yield atomic weapons.

Limited explosive yield is only possible through using fissile material as inefficiently as possible.

But the logistical and financial economy promised will only be attainable if armies and governments decide to take the risk of discarding most of their present conventional weapons, and relying on a relatively small quantity of small-yield atomic weapons as a substitute.

The boldness of such a step is an inherent hindrance to such a decision. Once taken, it might not fit the circumstances, yet would be irretrievable. Although guns and mortars, as well as rocket launchers, may have *dual capability*—to fire either nuclear or conventional projectiles—the number of pieces needed to provide a shattering bombardment with atomic shells would be utterly inadequate when firing ordinary high explosive shells. It would be like changing from a fireman's hose to a garden sprinkler. But if the number was to be ade-

quate for the needs of conventional fighting, the economy would be forfeited.

Another drawback is the uncertainty of the effect on one's own troops of turning a conventional fight into a nuclear one. It might prove a boomerang, shaking their nerve by the "frightfulness" of the experience, and leading to a moral collapse.

This brings us to another big question which applies to tactical atomic weapons in general. The main argument for equipping the NATO forces with such weapons has been that they are essential to counter-balance the Soviet Army's much larger number of troops. This argument is based on the belief that tactical atomic weapons favor the defense, and on the view that an attacker must concentrate his forces if he is to succeed in breaking through the defense, thereby offering packed targets to the defender's atomic weapons. Is this true?

The presence of atomic weapons certainly reduces the number of troops that an attacker can safely deploy in an area. But that limitation also applies to the defender—reducing the number of troops he can safely position in the area. That condition in turn affects the prevailing NATO belief and view. For the more the defense is dispersed over a given space, the less the attacker needs to concentrate his forces in order to penetrate the defense.

Indeed, his prospects may, in this respect, become better than they have been previously: before the advent of nuclear weapons. For where the defense ratio of force to space falls below the minimum required for a closely woven network of fire, a skillful attacker has always had a better chance of success, and re-

B. H. Liddell Hart is recognized both here and abroad as one of the great military writers of our time. No less acclaimed are his military theories. Today in the West they are seen in the concept of a balanced striking force. Next month the author will discuss the relative merits of chemical and atomic warfare.

quired a lower ratio of superiority in strength to overcome the defense. Dispersion inherently increases the scope for flank-turning maneuver, internal or external.

This basic condition applies to operations where tactical atomic weapons are used, or may be used—enforcing mutual dispersion. When tactical atomic weapons were first developed, I came to the conclusion, after a study of the problem, that it was very doubtful whether they would favor the defending side, as was claimed. Indeed, I thought out a method of “busting” a defense based on the type and scale of tactical atomic weapons then visualized (i.e. in the 20 kiloton range) which seemed to me to offer as good prospects to a skillful attacker as the mechanized “expanding torrent” attack originally did when conceived before the last war.

Control of small-yield weapons will be much more decentralized . . . that reduces the check on their unpremeditated use . . .

The question remains how far this conclusion will be affected by the development of very low-yield tactical atomic weapons. Because of their much reduced radius of destructive effect, they can be used in a more discriminating way, and with less risk to the defender's own troops—thus reducing the “dead ground” area in which an attacker could concentrate at the last moment, after a dispersed approach. That should favor the defense. On the other hand the increased dispersion enforced on the defender diminishes the attacker's need to concentrate—enabling a dispersed attacking force to infiltrate more easily. And once it has infiltrated into the defender's position, it exerts the moral effect characteristic of any threat to the defender's rear, which tends to be largely an effective substitute for physical weight and effect.

In arguing that tactical atomic weapons give an advantage to the



Once any kind of nuclear weapon is used it could spread to all-out nuclear war.

defense in general, and NATO's defense in particular, the most that can reasonably be claimed is that their presence tends to be a check on the attacker concentrating a very large *quantitative* superiority. Even if he has an overall superiority of 3 to 1 he could hardly venture to mass enough troops in any particular area to produce a local superiority of 10 to 1, or even 5 to 1, at the intended point of breakthrough. On the other hand, since the presence of atomic weapons enforces dispersion on both sides, the attacker may have a better chance than hitherto of achieving *qualitative* advantage by superior tactical skill. It may even enable him to break through without any numerical superiority.

Thus in sum and on balance, it becomes very doubtful whether equipping NATO forces with tactical atomic weapons carries benefits compared to its added risks. Even the potential advantages of the small-yield type, which appear so

good at first sight, tend to fade in the light of closer examination.

A wider consideration is that the control of small-yield atomic weapons will be much more decentralized, especially when infantry battalions are equipped with mortars which can fire them. That reduces the check upon their unpremeditated use in a local emergency. They could so easily be fired.

In theory, these small yield weapons offer a better chance of confining nuclear action to the battlezone, and thus limiting its scale and scope of destructiveness—to the benefit of humanity and the preservation of civilization. But once any kind of nuclear weapon is actually used, it could all too easily spread by rapid degrees, and lead to all-out nuclear war. The lessons of experience about the emotional impulses of men at war are much less comforting than the theory—the tactical theory which has led to the development of these weapons. US & MC

In sum, it becomes doubtful whether equipping NATO Forces with tactical atomic weapons carries benefits comparable to the risks.



Tong Yong Operation

By LtCol P. M. Smith

❖ A STACKED DECK OF SUPERIOR firepower provided by a nation rich in resources and manpower has led many commanders to overlook their trump card—an attack by night.

In dealing with an enemy, certain working members of the military have been content with strictly daylight offensive actions. Presumably, this technique is based on the precedent of past favorable decisions in the game of war. But lo the poor Indian! The least interested observer of TV battles between wagon trains and Indians can't help but note that the redman usually gets the short end of the stick. And Indians are notorious daytime fighters. They never—well, usually never—launch an attack until sunup.

Clausewitz, in his nine *Principles of War*, rated *surprise* sixth. He noted that *surprise* is "essential in

some form to obtain the maximum effect with the minimum loss." He added that it "may take the form of time, place . . . tactics or weapons."

When is a better time for a successful surprise attack than at night?

Russian, German, Chinese and Korean commanders considered night (or low visibility) operations unexcelled in gaining tactical surprise and effect. This strategy helped overcome a superior force. Heavy losses were avoided.

Readiness of Fleet Marine Force units to capitalize on low visibility

landings depends on well trained troops, but much more important is the skill of the commander in the correct and timely application of the offensive fundamentals involved. To show how one commander planned and executed such an operation, let us consider a historic example of the most difficult of all offensive operations: a night landing and movement inland for an attack on a city.

The Situation

We go back nine years. The time is August 1950; the locale, Korea. United Nation forces face the North Korean Peoples Army on the Pusan perimeter. At the moment, a stalemate exists with the NKPA offensive having ground almost to a halt and UN forces desperately holding the last defensible ground in Korea. Against this background, NKPA



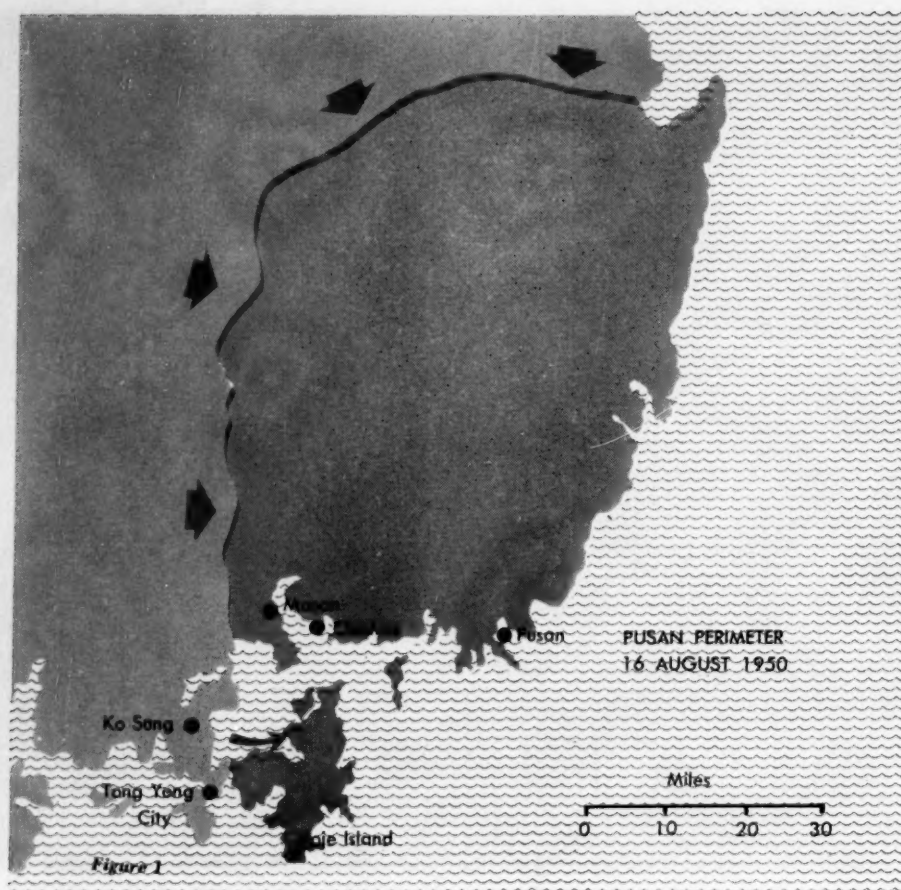


Figure 1

forces wearied in their efforts to seize the ports of Masan and Chinhae and began a drive south to the unprotected Tong Yong Peninsula (see Figure 1), about 40 air miles southwest of Pusan. The plan was to occupy Kije Island to the east and position artillery on its northern coast. From these positions the sea lanes into Masan and Chinhae would be within range and could be interdicted. The net effect would be to impede the flow of personnel, equipment and supplies into the two ports. This would throw an added burden on the already overstrained port of Pusan and lengthen US and ROK overland lines of communication.

On the morning of 16 August the commanding general of the 7th NK Division, located at Ko Sung, dispatched a reinforced infantry battalion to the Tong Yong Peninsula as the vanguard of other larger division units to follow. In a 10-mile march that day the NK battalion easily swept aside the few ROK police elements remaining in the area and occupied Tong Yong, a city of 40,000 population.

Information of the Communist plan to interdict the Masan-Chinhae supply routes had reached the ROK Chief of Naval Operations, Adm Son Won See, at almost the same time the NK unit departed Ko Sung. He reacted instantly. The 1st Korean Marine Corps Battalion at Chinhae was ordered to embark immediately on available ROK Navy shipping to land on the western coast of Kije Island and defend it against an enemy landing.

The 1st KMC Bn, commanded by LtCol (now MajGen) Kim Sung Eun, had been resting at Chinhae for two days after duty with the American 25th Infantry Division and the 1st ProvMarBrig. The battalion consisted of three 150-man rifle companies, a heavy weapons company (four 81mm mortars and four 50cal machine guns), a reconnaissance platoon and a battalion headquarters section.

LtCol Kim, 26 years old, had already participated in anti-Communist guerrilla actions before and after the invasion across the 38th Parallel. He had attended the Japanese Army officers candidate school

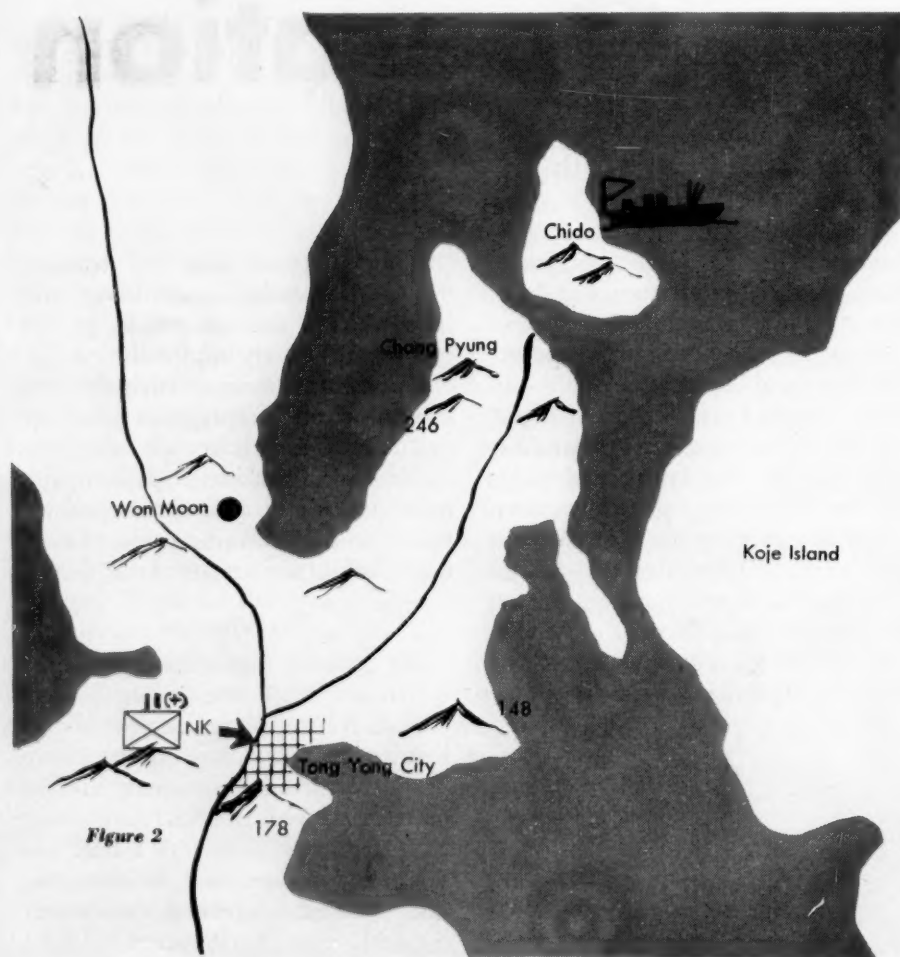


Figure 2

during WWII and saw brief fighting between the Japanese and Russian forces. Like other field officers in the Marine Corps at its inception, he had transferred from the ROK Navy and was regarded as an aggressive and astute leader.

Embarkation

LtCol Kim had received the order from Adm Son at 1700 on 16 August. An hour later loading began. The Marines would be transported on ROK Navy craft: two PC boats, a Japanese-made minesweeper and two 500-ton cargo ships (FS type). Armament for the ships varied from 3-inch guns on the PC's to 50cal machine guns and 37mm antitank guns on the others.

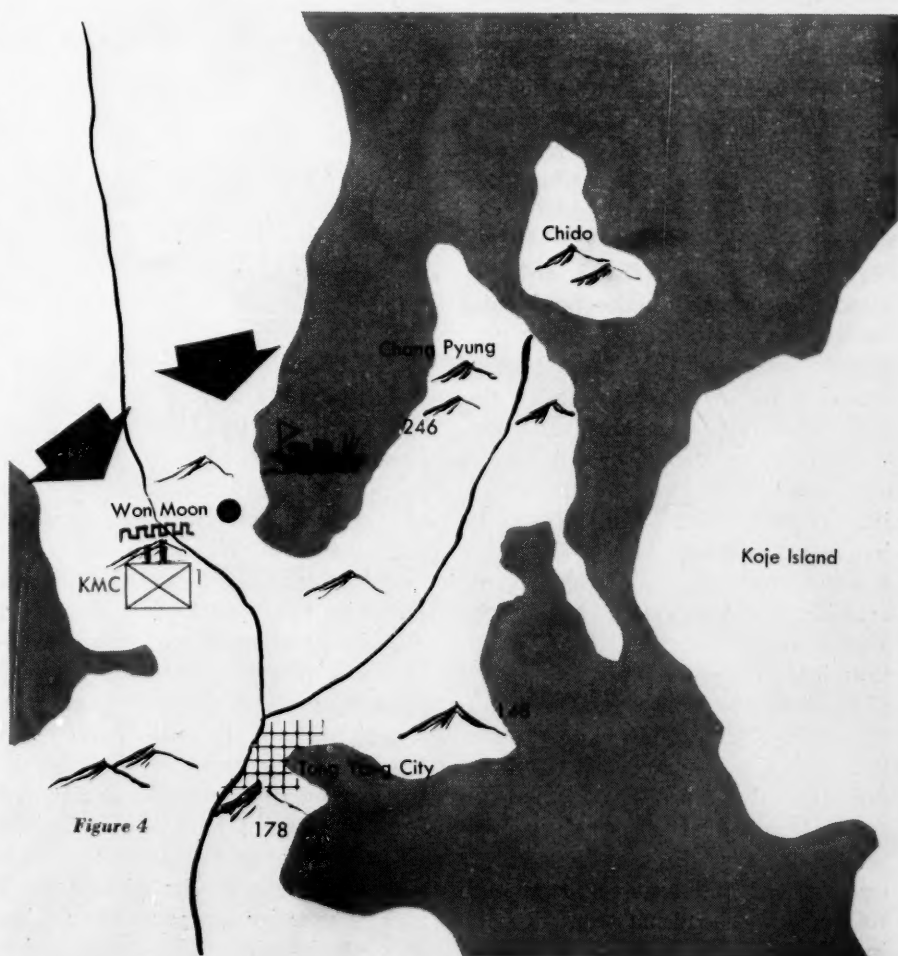
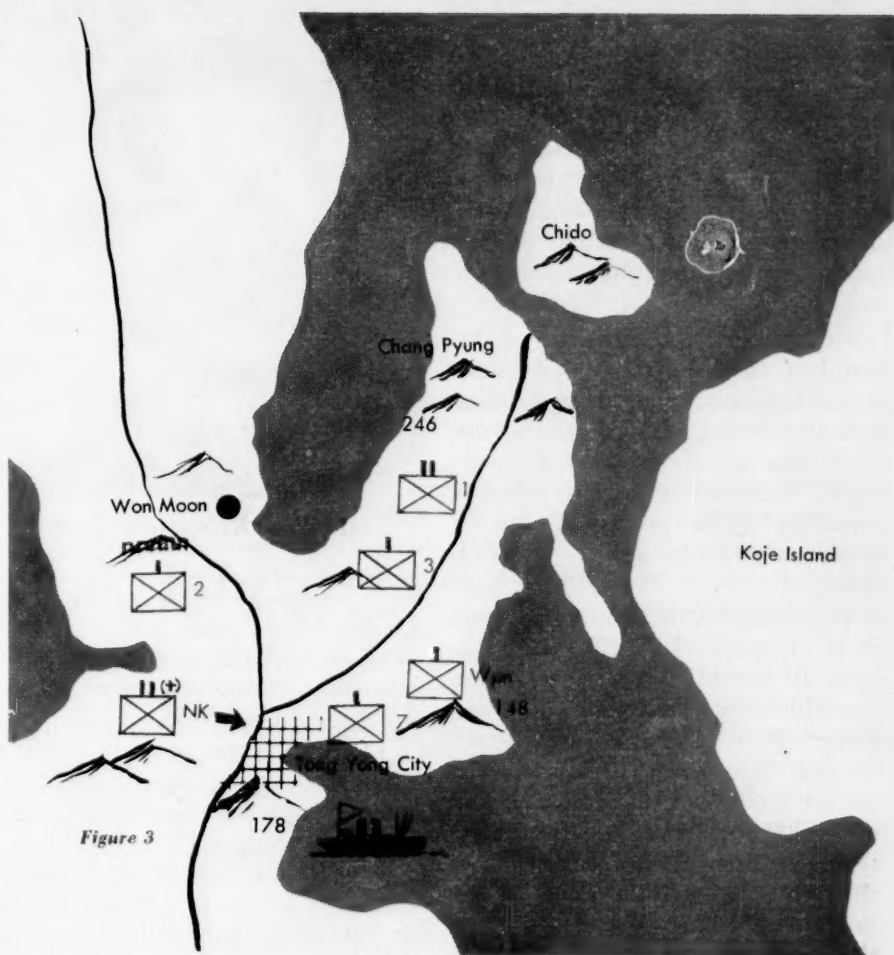
During the loading, LtCol Kim's spirits were high as he discussed the operation with Cdr Lee Sung Ho, the Navy commander, aboard PC 703. Morale of all Marine officers and men had increased amazingly in the few short hours since the order had been received. This would be the first KMC landing and, of course, the first operation with their comrades, the ROK Navy.

The task force departed Chinhae that night and by 0300 the next morning had arrived in the area east of Chido Island (see Figure 2). LtCol Kim asked Cdr Lee to anchor there the remainder of the night as he wanted to learn the latest movements of the enemy before effecting the landing. At sunrise LtCol Kim ordered the reconnaissance platoon on a boat-and-foot patrol to reconnoiter Tong Yong Peninsula from Won Moon to the city of Tong Yong, including the Chang Pyung area. He further had the Navy PC 302 scout the Koje coast and the area south of the city of Tong Yong.

Reports soon disclosed that the enemy was not yet on Koje Island, Chang Pyung or Won Moon, but had arrived in the city of Tong Yong. He was observed digging in around the beaches on the southern edge of the city. The enemy force, estimated in size at 700 to 800 men, had field artillery.

Planning

With the results of the reconnaissance and a map before him, LtCol Kim considered the situation that hot August day in a tiny cabin aboard one of the PCs. He reasoned



that his battalion could not effectively defend the 8-mile western coast line of Koje Island, as had been ordered by Adm Son. The force was too small; it lacked depth for defense and to await attack by superior enemy forces would be an invitation to disaster. Also, to defend under such circumstances would not be decisive.

He reviewed the elements of the problem and concluded that offensive action was essential; this would halt the NKPA advance and at the same time save Koje Island. Furthermore, the line of action adopted must be taken promptly, and it could only involve the forces available.

With his hastily summoned company commanders, LtCol Kim examined possible objectives. There was the enemy battalion in Tong Yong. That, of course, must be destroyed. The Won Moon, the narrowest part of the peninsula and some 800 meters wide, was critical terrain. Any reinforcement from the 7th NK Division units to the north would have to cross it. While the attack on the city was in progress, strong security would be needed to prevent interference by other Communist elements.

LtCol Kim would count heavily on surprise to overcome the combat power advantage the enemy possessed. To the Marines' advantage also was the mobility, and hence, flexibility inherent in the KMC-Navy task force. It could strike at almost any point on the peninsula. To achieve the tactical surprise necessary to attack the numerically superior foe, a landing under the cover of darkness was decided upon.

There was also a psychological advantage the ROK commander took into consideration. The NK units had never met any kind of offensive action. In the face of a determined attack they might falter. LtCol Kim also learned that the 7th NK division had "recruited" nearly a third of its strength while passing through the capital of Seoul. Such augmentation would be ill-trained and of dubious value.

CNO approval for a change in mission was vital. A radio message was drafted and sent to Pusan, the ROK Navy headquarters. Receiving the message, Adm Son balked.



MajGen Kim Sung Eun

In a second exchange of messages, LtCol Kim's plan was approved after he had emphasized the hopelessness of the alternatives of defending Koje Island itself.

There followed an event which is unique in the annals of command relationships in amphibious operations. Adm Son designated LtCol Kim as Commander of the Amphibious Task Force, reasoning that the operation was predominately a Marine Corps one—hence, required a Marine commander. It should be recorded, too, that LtCol Kim was senior to Cdr Lee.



Armed with this new authority and responsibility, LtCol Kim completed his plans. He would land at Chang Pyung on the northern coast of Tong Yong, send one rifle company to Won Moon on the right (north) flank in a blocking position, and with his main force advance on the city of Tong Yong. Much valuable and pertinent information had been turned up by the reconnaissance platoon in the past eight hours. Easily recognizable terrain features on the route to the city had been sketched. Under cover of night these would serve as landmarks. Of special note was the almost total lack of security forces on the perimeter of the city. The Communists

apparently were enjoying full freedom from thoughts of any kind of a threat.

Cloudy skies hiding a quarter moon would cover the operation with sufficient darkness.

As Task Force Commander, LtCol Kim devised a plan for the employment of the Navy force. After landing the Marines, Cdr Lee would shift his force to a position south of the city and execute a bombardment, hoping to deceive the enemy as to the true direction of the attack.

The Landing

At dusk, with about 20 borrowed fishing boats to augment the small craft of the task force, the 1stBn landed unopposed over an old ferry site in the Chang Pyung. The 2nd Rifle Co was first ashore, seizing the low hills about 300 meters from the beach and providing cover for landing the main body. The 3d and 7th Rifle Cos followed in that order with the weapons company coming ashore last. The entire formation was characterized by silence. Control of smaller elements was maintained by the simple but effective use of white cloth patches fixed to the back of each man.

With the battalion completely ashore, LtCol Kim passed the word for the seizure of intermediate objectives which were about 2,000 yards distant: Hill 246 to the right of the road to Tong Yong, and a low ridge to the left. Again without causing alarm the landing force took the objectives and was midway to the city.

Suddenly, the flash and sound of gunfire came from the area of the city. It was the ROK ships of Cdr Lee bombarding city beaches. The enemy quickly responded to the ruse and began assembling troops in the areas to the rear of the beaches in the southern part of the city. As the ROK gunfire kept up its energetic tempo, the Communist expectation that a landing would be made directly on the city was strengthened.

Movement to the Objective

Meanwhile, LtCol Kim had led his battalion undetected to the northern outskirts of the city. By sunrise (see Figure 3) the 2d Rifle Co had been dispatched to Won Moon to assume its blocking posi-

tion after Hill 246 was taken. The 7th Rifle Co of the battalion was concealed along the military crest of Hill 148, the high ground overlooking the city. LtCol Kim, the 3d Rifle Co, the weapons company and the reconnaissance platoon were about 250 yards north of Hill 148, just outside an entrance to the city. In his overconfidence, the Communist commander had committed the unpardonable sin of neglecting his security on a vulnerable flank. Not a shot had been fired there yet.

Elements of the 3d Rifle Co were finally spotted by the Communists. The alarm went out. The NK battalion commander hastened to alleviate his plight and redeployed two companies from the beach area, sending one company to scale the heights of Hill 148.

The 7th Rifle Co on Hill 148 waited until the enemy was half-way to the top, within easy range and fully exposed, before opening fire. The first bursts of rifle and machine gun fire dealt the enemy a violent blow, accounting for over 100 killed.

The Attack

Observing the effects of this fire and signs of astonishment and confusion in the city, LtCol Kim knew it was the moment to attack. The 3d Rifle Co was ordered into the city. The enemy became more confused and disorganized. For the Marines in the eastern part of the city it was a mopping up job as only small groups of the enemy attempted to defend. Others fled northwestward hoping to escape by fishing boats to the mainland.

LtCol Kim quickly directed the pursuit which accounted for many enemy casualties. The 2d Rifle Co at Won Moon blocked the escape in that area. There the NK battalion commander was killed as he tried to run the roadblock in a jeep.

One organized position of resistance was left in the city: Hill 178. The 3d Rifle Co began the attack that afternoon. It was tough going even with naval gunfire support made possible by an SCR-300 radio link with the PCs. Intensive summer heat and lack of mortar ammunition made it tougher. Then came a radio message from the PCs where ammunition also had been

LtCol Smith gathered material for this article from official combat records and interviews with KMC officers who were at Tong Yong. The operation demonstrates, he believes, "significant lessons in command action." In Korea in the winter of 1950-51, he was attached to a US Army guerrilla warfare unit as S-2. More recently, 1957-58, he served as Senior Adviser, 1stROK Marine Division. His present duty is Chief, Electronics Section, MCEB, Quantico.



running low: naval gunfire on the objective would have to cease. The Marines made one valiant rush at this time. The enemy resistance crumbled and the hill fell.

Reorganization of the Ground

With the city his, LtCol Kim hastily accepted the thanks of grateful city officials, tactfully refused their offer of an immediate victory celebration, and hurried to Won Moon to take up a strong defensive position (see Figure 4). There was much work to be accomplished to build up an unassailable bastion if the fruits of victory were not to be lost. The Communist reaction might be swifter than anticipated and strong forces would most certainly be enroute.

The fortunes of war were still with LtCol Kim when a ROK Navy ship arrived to replenish the dwindling supply of ammunition. It also brought a provisional rifle company

of Marines hastily assembled at Chinhae. The ROK ships under Cdr Lee were promptly brought around to the northeast of the peninsula and their weapons integrated into the defensive fire plan.

The enemy did not wait long. The following night an attack began in battalion strength with artillery support. A penetration of the Marine position was made, although at daybreak the Marines were able to clean out the enemy and restore the position. Both sides lost heavily in this fight, but more action was to come. The next two nights similar battalion attacks were launched. Again the enemy was repulsed. The ROK Navy ships gave effective support from the flank and were again controlled by radio from the Marine battalion.

In the days following, the fighting dwindled to small skirmishes, but the Marines held firm at Won Moon and the status quo was maintained



until the Inchon landing in September. During this period the 2d and 3d Rifle Cos were replaced by other units from Chinhae and saw further action at Inchon as a part of the 1st KMC Regiment.

Critique

This, then, was the battle of Tong Yong. In retrospect, LtCol Kim had presented an almost perfect example of tactical surprise. He had destroyed the enemy battalion, saved Kojé Island and prevented the obstruction of shipping into Chinhae and Masan. Further, he had forced the enemy to resume his venture only by fighting on ground which was favorable to the Marines. The feat was most remarkable, however, when considered in the atmosphere of defeat that then pervaded Korea, when withdrawal after withdrawal was the pattern. LtCol Kim rejected this when he instituted offensive action.

The detailed planning and aggressive actions throughout the operation were notable, especially in the control of the battalion elements during the night landing and the movement on the city. LtCol Kim's precise timing of the attack on the city demonstrated a rare gift of command, and his handling of the ROK Navy elements in the deception plan and subsequent gunfire-support did a great deal to clinch the victory. He proved a skillful and resourceful leader.

The cost to the enemy as a result of the Tong Yong operation was grim. The 7th NK Division had lost an effective infantry battalion, an artillery battery and miscellaneous supporting units. Enemy casualties compiled for the official Marine Corps report showed that 274 were killed and 47 taken prisoner. Also, it is debatable as to how many of the remainder rejoined the NK forces.



For the KMC it was a sharply contrasting story. By taking advantage of a complacent enemy in every opportunity, and especially in achieving surprise through an ability to operate effectively in darkness, the Marines had reaped the benefits of low casualties: five killed, 17 wounded.

Statistics on the NK armament captured by the Marines were:

| | |
|--------------------|-----|
| Heavy machine guns | 5 |
| Light machine guns | 18 |
| Mortar, 122mm | 1 |
| Artillery, 105mm | 3 |
| Rifles, U.S. | 68 |
| Rifles, Russian | 100 |
| Rifles, Japanese | 5 |

Since this was the first enemy equipment captured in the war by South Korean forces, the Republic of Korea government gave it wide display and publicity in the cities and towns. The victory directly aided in reviving the spirits and pride of the ROK government in a period of stress and gloom.

When President Rhee heard of the accomplishment at Tong Yong, his accolades of praise were concrete in awarding spot promotions to all officers and men of the battalion. Thus LtCol Kim was promoted to colonel, a rank then held only by the KMC Commandant.

Although eclipsed at the time by the more sizable actions on the Pusan perimeter, Tong Yong stands as a vital and distinctive contribution to the United Nations effort during the withdrawal phase of the Korean War. It also furnishes good evidence that aggressive action during periods of low visibility can produce positive results against superior firepower and with fewer casualties than would result from standard daylight operations. USMC



'But Sir . . .'

A MARINE LIEUTENANT was putting PLC's through their athletic paces at MCS, Quantico. He had divided the officer candidates into two platoons. The platoons were competing with each other in one melee after another as part of their physical conditioning program. Each contest was more rugged than the one before.

Scratches, bruises, and a little blood began to show when one platoon tried to drag the other's members across a white line on the field.

Finally one tired and battered young Marine complained, "That platoon has more men than we do. And all of them are bigger."

The lieutenant turned on this lad. "Remember," he said, "it makes no difference how big they are or how many there are. Marines always win! You can win regardless of the odds because YOU ARE MARINES!"

Came the inevitable reply: "But, Sir! They're Marines too."

LtCol D. D. Nicholson, Jr.

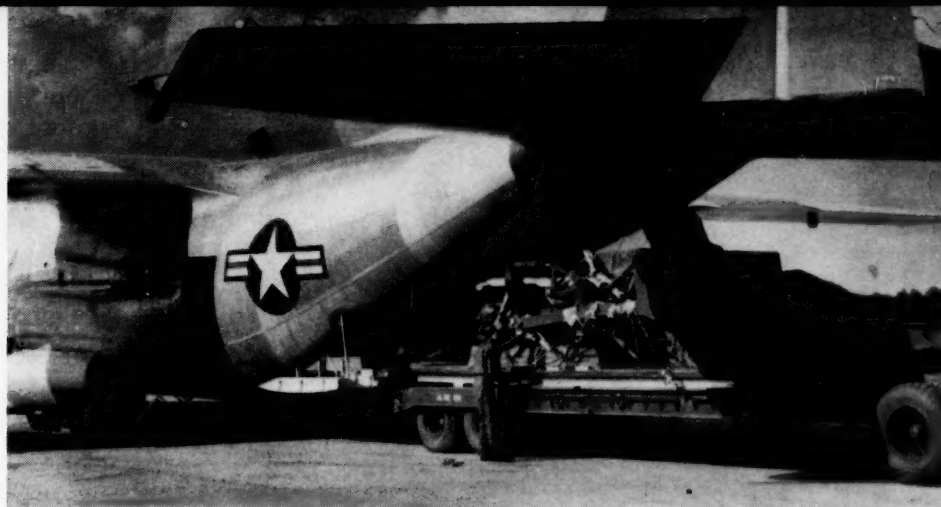
Highway Morals

THE BATTALION COMMANDER was conducting his last personnel inspection on the weekend before Christmas holidays. With him was the battalion chaplain. Going through the ranks of one company, the chaplain asked its commander, "And what kind of a moral guidance program are you conducting during the Christmas holidays?"

The CO, recently returned from sea duty and unfamiliar with the moral guidance program, hesitated for a moment then replied thoughtfully, "Well, this week we're pushing safe driving."

1stLt Phillip T. Arman

BLOCK BUSTER



Monster Caterpillar tractor goes aboard

ENGINEERS FACED WITH BUILDING an airstrip in a remote, road-less region might well wonder: which comes first, the chicken or the egg?

Or to bend the cliché slightly to fit the situation: which comes first, the airstrip or the heavy equipment needed to build one? If the construction site is accessible only by air, can you have one without the other?

There's a simple answer. Put the needed gear aboard aircraft, fly over the site—and jettison the load. Once on the ground the equipment will hack a runway out of the wilderness in no time.

Two important items: kingsize parachutes and aircraft with payload capacities equal to 10-ton plus palletized Caterpillar tractors. In a re-

cent exercise, the first of its kind, the combination worked beautifully. Within 48 hours after their heavy tools were air-dropped from Lockheed C-130 (GV-1) aircraft, engineers had built a 2,000x50-foot runway. Dropped, with no severe damage, were five Caterpillar D6 tractors, three Cat road-graders, and 35 assorted trucks and jeeps.

Supplies included 2,500 gallons of diesel fuel, the same amount of water, 600 gallons of gasoline, 180 cases of C-rations, as well as 22,000 pounds of other fuel, oil and ammunition.

The only loss of supplies or equipment was a single pallet of gasoline cans, a victim of an unopened 'chute.

Packed for the air drop, 7 to 8-ton Cats weighed as much as 21,000

pounds. They were protected against impact shock by thick, felt pads. After a drop each machine was closely inspected for oil leaks, broken fittings, gaskets or housing. There were none.

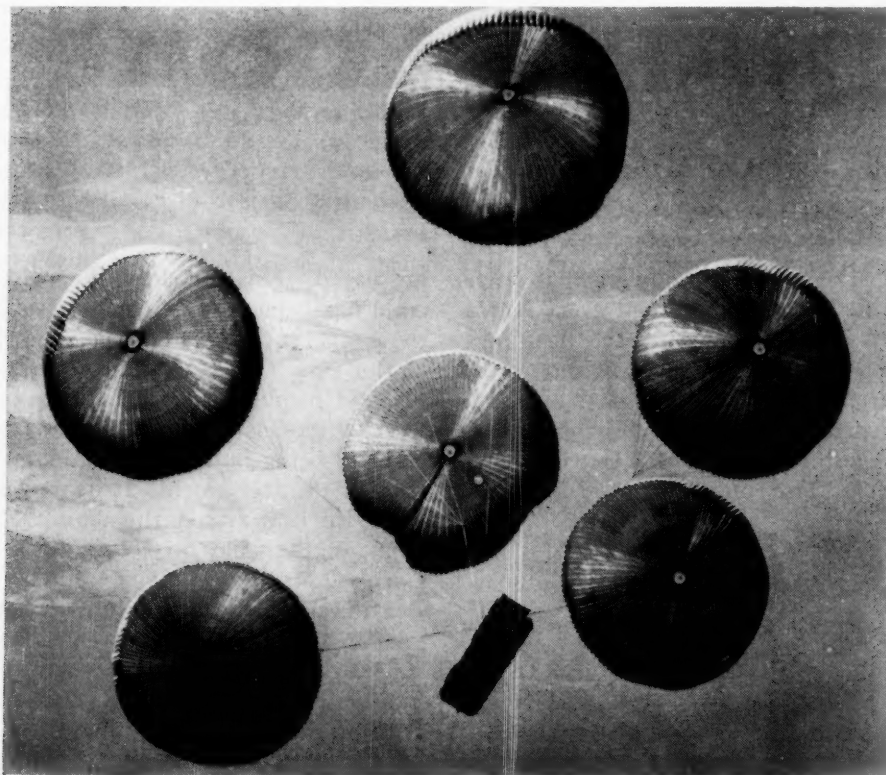
Ejection proved easy. A small drogue 'chute pulled the palletized loads out of the plane on aluminum rollers. Long static lines popped open the main 'chutes when the load cleared the rear of the plane. Six parachutes, each of 100-foot diameter, lowered the monster loads to the ground.

Despite gusty winds up to eight knots, drops were made within a one by one-and-a-half-mile drop zone.

US  MC

AMSgt Joe Dodd

Cat in the sky



Delivered unscratched





FLYING SAUCERS . . .

A HARD LOOK

by LtCol A. R. Nollet

IN THE PAST FEW YEARS THE NUMBER of "flying saucer" sightings has decreased. Last winter, about when the Air Force had convinced most of us that Unidentified Flying Objects didn't exist, the Defense Department released news stories about US Flying Saucers. At least the photos looked like flying saucers to me! We all had the momentary delusion that we were ready to blast off to outer space. A closer reading of the releases showed that most of these vehicles were designed to operate very close to the ground. In fact, they are designed to replace trucks or boats!

The public, hoping for a US scientific breakthrough, had every reason to be encouraged by the headlines. For example, *U. S. News and World Report* published an article on 27 April 1959 titled, "Flying Saucer Age for the U. S.—It's Getting Nearer." The public's enthusiasm was



—Gyrodyne

misplaced. No new scientific principle has been discovered, nor were these saucers the exclusive possession of the US. The saucers turned out to be Ground Effect Vehicles. At least 20 models of such vehicles are actually being built in various countries of the free world. It behooves us all to understand them and see what use they may be to the Marine Corps.

The very first known ground effect vehicle was built and patented in 1935 by a Finnish mailman named Toizo Kaario who had a problem crossing the frozen wastes in a truck.

Essentially, he inverted a boat and blew air into it. He found that it skimmed over the tundra at a height of a few inches, and he used his machine on his mail route. He was granted Finnish Patent Nos. 18630 and 26122 on his device.

Before such vehicles can be discussed intelligently it's essential to understand the principle on which they work. The principle is "ground effect," and it's been observed ever since man first took to the air. Ground effect is simply the extra lift which any airplane experiences when it's operating near the ground. Ground effect occurs because, when the airplane is close to the ground, the air beneath the wing (or rotor) is compressed. This compressed air exerts an upward pressure on the wing or rotor, and this extra pressure causes the extra lift. Aviation buffs will recall that in 1931 Claude Dornier's giant 12-engine seaplane, the DO-X, was flown across the Atlantic. It might not be recalled that this airplane was so heavily loaded that it couldn't climb more than a few feet for the first part of its trip. It was flown for at least 1,000 miles just a few feet above the surface. About ten per cent of its lift was due to ground effect, and it couldn't climb out of its ground cushion until it had burned a great quantity of the diesel oil with which it was fueled. In fact, if ground effect had not helped it, the DO-X would never have taken off. Overloaded helicopters could not take off vertically without ground effect. The takeoff of our fixed wing airplanes is materially shortened by ground effect. And ground effect often causes the young aviator to overshoot the runway when he's landing. His airplane suddenly gets extra lift as he nears the runway. This causes the machine to glide farther than it otherwise would and may even cause it to overshoot the runway. All flying machines, then, experience ground effect. What distinguishes the ground effect vehicle from any other airplane or helicopter?

I'll define a ground effect vehicle as any vehicle which, in at least one phase of its operation, *relies* upon ground effect for its operation. This definition would include the old DO-X and overloaded helicopters, but it would not include ordinary modern airplanes or normally load-

ed helicopters. There are several types of Ground Effect Vehicles, and it would be well to define them at this point.

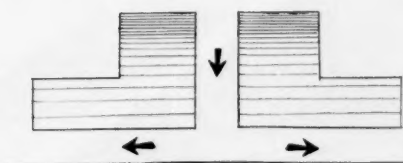
1) **AVRO TYPE.** This type rises vertically by blowing jets downward. Part of the jet exhaust is then vented aft. The machine then accelerates forward over a relatively level surface, tilts backward, then flies like

an airplane. It will require a trained pilot. This type *may* be useful as a replacement for conventional aircraft. It will probably not be much more efficient than an ordinary jet airplane, as the extra ducting which replaces the wheels will be about as heavy as the wheels. There may be difficulty in bringing this machine to a safe stop.

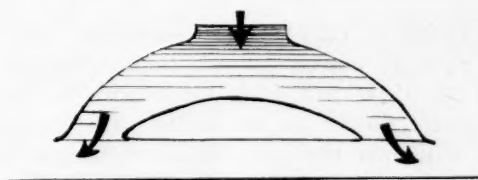
OUTLINE OF GROUND EFFECT VEHICLES



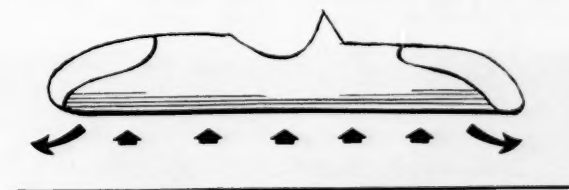
AVRO TYPE Complicated, expensive, requires pilot, takes off in ground effect. Accelerates over ground—tilts backward giving angle of attack, then flies like aircraft.



FORD LEVIPAD May be useful in railroad applications, particularly monorails. Pressure leakage type, operates within inches of the surface.



PLENUM CHAMBER Looks like inverted bathtub or boat. The Marine Corps has ordered one model from Spacetrionics, Inc.



PEGASUS Air is ducted so that it escapes in curtain around periphery of vehicle. In most cases its more efficient than pressure leakage type. USMC has ordered one model from National Research Associates, Inc.



Center section of plenum chamber ground cushion vehicle

2) **FLYING PLATFORM.** This machine will have enough power to fly above ground effect. It will require about as much power as a helicopter, and it will have the stability and control problems of a helicopter. It will require a trained pilot.

3) **GROUND CUSHION VEHICLES.** These vehicles cannot fly out of ground effect. They will never

climb higher than about 20 per cent of their effective diameter. Compared with a helicopter, these vehicles will be cheap and efficient. However, unless they are very large, they will not be nearly as efficient as a truck or a boat. About 30 tons is probably the smallest size which is economically feasible. Smaller sizes may be useful for certain limited military operations in special

areas of flat terrain.

a) *Pressure Leakage Type.* This type operates within inches (or fractions of an inch) of the surface.

(1) Ford Levipad: May be useful in railroad applications, particularly in monorails.

(2) Plenum Chamber: Looks like an inverted bathtub or boat. USMC has ordered a model from Spacetrionics, Inc.

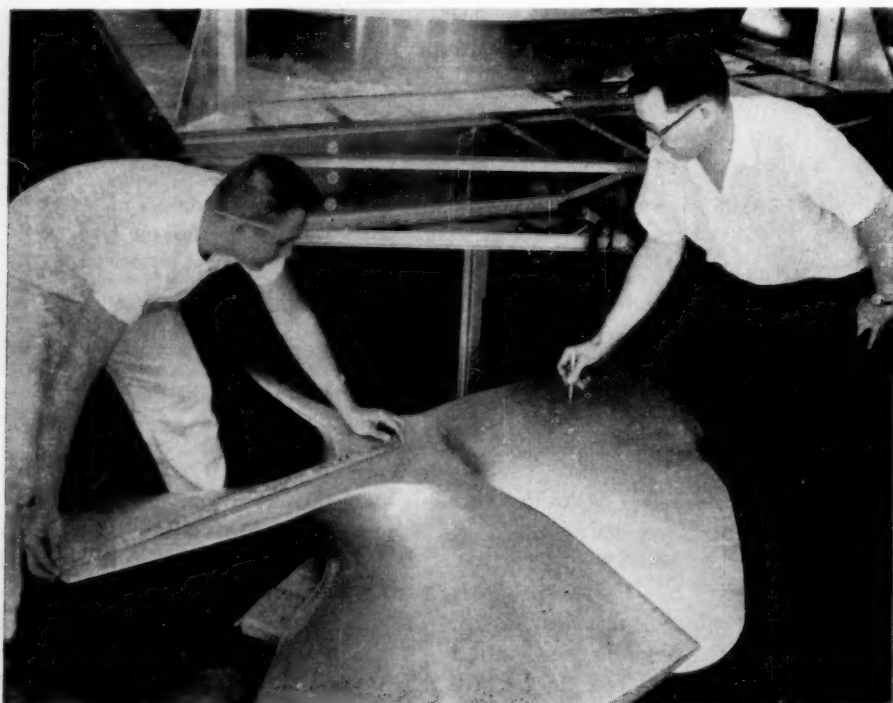
b) *Peripheral Jet Type.* The air is ducted so that it escapes in a curtain around the outside edges of the vehicle. Will be more efficient than the pressure leakage type, except possibly when the pressure leakage type is operated very close to a smooth surface (such as monorail).

(1) Pegasus: The Marine Corps has ordered a model from National Research Associates, Inc.

(2) Saunders-Roe Hovercraft.

(3) Weiland's Labyrinth Seal.

These definitions of the types of ground effect vehicles are admittedly arbitrary. I've divided the vehicles into the types shown because it is important to understand that there are great differences between them. Some will be very expensive, will require a trained pilot, and will probably be unstable. Others will be relatively cheap, simple to operate, and stable. Let's examine the three general types in greater detail.

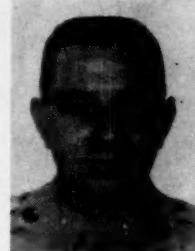


Special propeller for Spacetrionics, Inc.'s prototype

The AVRO is being built for the US Army by AVRO Aircraft Ltd. of Canada. It will rise vertically in ground effect using jet exhaust blown beneath the machine. Some of the jet exhaust will then be bled to ducts in the rear of the vehicle. This will make it move forward, still in ground effect. After it has attained sufficient speed to fly as an airplane, the exhaust ducts on the bottom of the vehicle will be closed. The vehicle will then fly like a jet airplane. It will land by using the same technique in reverse. It's easy to visualize the advantages and disadvantages of this type. First, it won't need any wheels or permanent runway surface. It can probably take off over any flat, relatively unprepared surface. It can land on similar surfaces. The obvious advantages of such a machine will make it well worth our time to monitor this Army development closely. On the debit side, we must note that this machine will be as complicated as any other jet airplane. The weight saved by the elimination of the wheels will probably be lost with the installation of complicated ducting. Furthermore, there may be a real problem in bringing this machine to a safe stop. As a personal guess, I'd think this machine is years away from production. In fact, there is a strong chance that the detailed engineering problems associated with this machine may never be solved satisfactorily.

The Flying Platform type is advertised by the Army as a flying reconnaissance car, a flying jeep, or, in some circles, a flying tank. This type would operate in ground effect most of the time but would have the capability of flying high enough to avoid trees and other obstacles. It is the subject of much controversy. One Marine officer, who by training and assignment is perhaps the Marine Corps' best qualified expert on ground effect vehicles has argued that this type will perhaps be practical. I don't think so. I think that these vehicles will be about as costly as a comparable helicopter. I think that they will be as unstable as a helicopter, and I think that they will require a trained pilot. Furthermore, I doubt that their performance will be significantly better than that of a helicopter. If they're built to have only a limited zoom capa-

LtCol Nollet believes ground effect vehicles can fill a definite Marine Corps need. As Asst Chief, Air Section, MCEB, he will have a ring-side seat when tests on these vehicles get underway. His interest, however, will be limited to that of a spectator, since the tests will be conducted by the Transportation Section at the Equipment Board. A Marine aviator, he was commissioned in 1942 and attended Senior School, MCS, Quantico, prior to being assigned to MCEB. Much of the information in this article came from a Senior School Committee Report. The author was chairman of the committee which had as members: LtCol J. E. Williams, LtCol G. E. Ferguson, Sr., LtCol E. H. Haffey and LtCol K. B. Nelson. The author gratefully acknowledges their assistance.



bility, they won't be nearly as versatile as a helicopter. Their only possible advantage over a helicopter is that their rotor(s) would be surrounded by ducts (*i.e.* ducted fans).

"Large devices of this nature would enhance the traditional mobility of the Marine Corps."

It is known that ducted propellers are more efficient than are unshrouded propellers. The question is whether or not the weight of the ductwork gives enough extra performance to justify its weight and cost. If these things were being designed as a replacement for the helicopter, and if it could be shown that the ductwork paid its way, these platforms might make a lot of sense. As proposed, however, the Flying Platform seems to be an inferior substitute for the helicopter.

The Ground Cushion type is completely earthbound. These vehicles will *never* operate more than about 20 per cent of their effective diameter above the ground. (This is the

equivalent circular diameter. For example, a rectangular platform 10 feet x 5 feet has an effective diameter of about 8 feet.) By comparison with a helicopter, these vehicles will be cheap and stable. They will be relatively simple to operate. When they are flown very close to the ground they will develop at least five times the lift developed by a similar helicopter. The Marine Corps is definitely interested in this type. We have contracted for one model of the Pegasus and one model of the Hydro-Air vehicle. These vehicles are being built by National Research Associates, Inc., and Space-tronics, Inc., respectively.

These machines will be described in detail later. At this point though, it would be well to state the most important characteristic of the Ground Cushion type. *The bigger the machine, the more efficient it is. Furthermore, the lower the vehicle is flown, the more efficient it is.* I have no desire to turn the GAZETTE into a mathematical journal, so I won't reproduce the formula which relates power required with weight area, altitude, effective diameter and air density, though such a formula exists. It was developed by Harvey



Gyrodyne ASW drone concept



Ground cushion vehicles could be used for ship to shore movement

Chaplin, an employee of the David Taylor Model Basin.

Mr. Chaplin is perhaps the country's foremost technical expert on ground cushion vehicles. He has designed several models and has tested them extensively. He has published several important papers on this subject. His opinions are therefore important, and he doesn't mince his words: "One of the most salient conclusions indicated by the study is that the annular jet is probably not an attractive means, from a performance standpoint, of sustaining small vehicles. At 15 feet altitude, an annular jet vehicle smaller than about 50 feet diameter would require, at best, only slightly less power than a helicopter of the same diameter and weight. The annular jet vehicle's further severe limitation in the type of surface over which it can fly would seem to make it a poor competitor with existing vehicles in small sizes, barring of course, the possibility of highly specialized missions for which this limitation might be unimportant. In large sizes, on the other hand, say several hundred feet in diameter, there seems to be a distinct possibility that the annular jet vehicle might compare very favorably with existing vehicles for missions requiring large load capacity, long range, good fuel economy and VTOL capability."

How does Harvey Chaplin's statement compare with the views of other experts? Very well! *Aviation Week* of 27 April 1959 published data on

three vehicles which are being built by Saunders-Roe Ltd. of Great Britain. According to *Aviation Week*, Saunders-Roe has concluded that the smallest economical size for such a vehicle is about 30 tons. This vehicle would have a capacity of 100 passengers. It would be powered by a single Rolls-Royce gas turbine of 2,120 horsepower. It would cruise at 70 knots at an altitude of two feet, and it would have a maximum hovering height of 2.6 feet. The overall length of its elliptical platform would be 83 feet. It would be 41 feet wide and 27 feet high.



—Cyrodyne

Much original work in this field has been done by Carl Weiland, a Swiss mechanical engineer. Mr. Weiland also thinks in terms of large vehicles. He has proposed an ocean-going version which would be 1,000 meters in diameter. His vehicle would travel 15 meters over the surface of the ocean (1.5 per cent of its diameter). It would have 700,000 square meters of bearing surface, and would weigh 350,000 tons. It would trap air by use of "labyrinth seals" located beneath the vehicle. It would require 5,600,000 horse-

power to lift the ship 15 meters, but only 945,000 horsepower to lift it 2.5 meters. This ship would weigh about four times as much as the *Enterprise*, require about 20 times the horsepower, and attain three times the speed. Mr. Weiland has calculated the average power to lift vehicles of this type as follows:

| Diameter (Meters) | Avg Power (HP/ton) |
|-------------------|--------------------|
| 1000 | 1.4 |
| 333 | 4.2 |
| 100 | 14.0 |
| 50 | 28. |
| 30 | 140. |

These numbers are in close agreement with those produced by other experts.

I studied the data on the Saunders-Roe family of vehicles (called Hovercraft). This Saunders-Roe design seems typical. I've calculated that if a vehicle of this type is to be flown at five per cent of its effective diameter, and if it is to lift ten pounds of payload per horsepower, the vehicle would have a gross weight of about 100 tons, and it would be 130 feet in diameter. It should be recalled that a truck lifts about 40 pounds of payload per horsepower. A helicopter lifts about three pounds of payload per horsepower.

In fact, if a vehicle of the Saunders-Roe family were to be as efficient as a helicopter, it would have to be about 50 feet in diameter, and it could never be flown more than about 2.5 feet above the surface. Now I'll be the first to admit that there are some land areas of the

world in which such a vehicle might be useful. But I don't have to do more than look out of my Quantico window to realize that in most land areas, such a vehicle is completely useless. It will be very sensitive to small ground irregularities. It can be wrecked by sucking foreign matter into its fan. It would be so high that it could not go under most road overpasses on land or bridges over rivers. It would be noisy and would herald its advance by a cloud of dust. It is impossible for me to believe that except for special operations, say over a flat marshland, such a vehicle would be useful.

It might appear that I've made an attempt to shoot down ground cushion vehicles for Marine Corps use, but that's not completely true. I do think that they will be nearly useless to us for use over land. But how about over water? Here the things might come into their own for the following two applications:

1) As a ship-to-shore vehicle. If ground cushion vehicles were used for this purpose the assault troops could be deposited inland for a short distance over relatively smooth beaches. This would enable us to avoid mines and beach obstacles. Relatively large (perhaps 100-foot diameter) vehicles would be a natural for this purpose.

2) As fast assault transports and/or aircraft carriers. It seems probable that Mr. Weiland's 350,000 ton device could be made to accommodate a division/wing team including most organic aircraft. Obviously we'd not want to risk a force this large in one ship. But relatively large ground cushion vehicles are recommended.

Large devices of this nature would certainly enhance the traditional mobility of the Marine Corps. It would be wonderful to travel at 70 knots instead of 20 knots. I feel strongly that the Commandant should urge the Navy to pursue the development of large ocean-going ground cushion

vehicles for use as assault transports.

Let's look at what the Marine Corps is actually buying. First the Pegasus. One model of the Pegasus is being built by National Research Associates, Inc. at the relatively low cost of \$20,000. Data are shown in Figure 1.

Figure 1: Pegasus

| | | |
|---|-------------------------------|------------|
| Useful Load: | Operator | 170 |
| | Fuel | 30 |
| | Total useful load | 200 lbs |
| Vehicle Load: | Engine | 394 |
| | Vehicle | 358 |
| | Rolling gear | 22 |
| | Controls | 26 |
| | Total | 800 lbs |
| Type: Peripheral Jet | | |
| Dimensions: | | |
| | Length | 175 inches |
| | Width | 95 inches |
| | Height | 41 inches |
| Engine: | | |
| | 2 TR-10 | |
| | 40 hp at 6500 rpm each | |
| | General purpose fuel | |
| Control: Will move forward or backward by movable vanes and jet discharge clots. Throttle control for ground clearance. | | |
| Claimed capability: | | |
| | Speed: Unknown | |
| | Altitude: 3 to 4 feet | |
| | Floatability: Built to float. | |

According to Harvey Chaplin's formula, this vehicle should fly at about 2.34 feet using full power. This is close to the contractor's claim of three to four feet. It therefore appears likely that the vehicle will come close to doing what it's supposed to do. But what if it works exactly as advertised? What good will it really be except as a research vehicle? I'll admit that there are a few areas in which we might have an actual use for such a vehicle. But for every such area, I can think of 20 others where it would be useless. Can we afford to consider items which won't be useful in the majority of areas into which we might go? I think not! One final word about Pegasus. This device carries a greater percentage of useful load than do other such devices of similar size.

Pegasus will soon be tested by the Marine Corps Equipment Board. It will be interesting to see the show.

Consider the Plenum Chamber type being built by Spacetratics, Inc. for the Marine Corps. Because it is a plenum chamber type, it will probably not be as efficient as a peripheral jet type of the same weight. However, plenum chamber types require less ductwork than is needed by peripheral jet types. Therefore the payload of a plenum chamber type may be comparable with that of a peripheral jet. The Spacetratics device will cost \$26,000. It will be 30 feet long and 24 feet wide. It will be powered by a 270 HP Ford engine. It will have an empty weight of about 4500 pounds, and will carry about 4000 pounds of payload at a height of 14 inches. A speed of 25 miles per hour is guaranteed, but the contractor speculates that speeds up to 100 miles per hour may be obtained. I feel that this vehicle is still too small to be militarily useful, but larger models could of course be developed.

The Bureau of Aeronautics is also funding a small vehicle of the Ground Cushion Type. It will be known as a "GEM"—for Ground Effect Machine. The first model will weigh about 600 pounds. It will be powered by a Porsche 1,600cc auto engine. The contractor (Gyrodyne) says that it is designed to operate within close proximity to the ground or just high enough to clear its four landing pads. It is of the Peripheral Jet type.

Let's review the bidding. We should keep an eye on the AVRO type of vehicle as a possible replacement for some fixed-wing aircraft. I doubt that the *Flying Platform* type will ever perform as advertised. I think that the *Ground Cushion* type will be militarily useful only in large sizes primarily as beach assault craft and as large amphibious transports.

USMC

★ ★ ★ ★ Professional Courtesy

THE SCENE WAS A NATO CONFERENCE. A US Army major general introducing the speakers said, "We will observe protocol and hear from the army first, the senior service." Since the conference was informal several air commanders cried from their seats that times had changed. Roles and missions, too. The general hesitated. Then, he continued. "Well, I know I'm on firm ground if we have the army speak first on the basis that it is certainly the oldest profession."

"Ha," shouted a British Air Commodore. "Wrong again, sir."

Col G. O. Ashley, USAF



Legislation passed in the last session of Congress has eased the "hump" in Marine officer ranks and brightened the promotion outlook for the coming fiscal year.

In an article appearing in the *Army-Navy-Air Force Register & Defense Times*, MajGen Donald M. Weller, Asst Chief of Staff (G-1), had this to say about promotions:

During the next fiscal year there will be a 14 per cent opportunity to make brigadier general. Of those not selected, 20 per cent may remain on active duty until they complete 30 years. An alternate plan, to be outlined soon by G-1, is also being considered for those not selected.

For promotion from lieutenant colonel there will be a 60 per cent opportunity; from major to lieutenant colonel about 65 per cent; and from captain to major about 80 per cent.

Gen Weller went on to point out that the Marine Corps has switched to the zone of consideration concept for promotion to lieutenant colonel. This means that when an officer is in the consideration zone and not selected, it is not counted as a pass-over. Only when he enters a promotion zone will the passover be counted.

A basic feature of the zone of consideration concept is the early promotion of outstanding officers to lieutenant colonel from within the zone.

A new Marine Corps Institute course, *Summary and Special Courts-martial*, is open for enrollment. Designed for Marine officers, it will enable them to participate in special courts-martial as president, trial or defense counsel or as a summary court-martial officer.

Instruction is in principles of military law and rules of procedure under UCMJ.

A shoulder-fired 90mm recoilless rifle has been tested at MCLFDC, Quantico, and has been recommended, subject to modification, for adoption by the Marine Corps.

Weighing 35 pounds, the 4-foot-long rifle will be operated by two-



man teams and in emergencies can be carried, loaded and fired by one man. It fires a 9-pound shaped charge that can penetrate the heaviest armor at 500 yards—twice the range of the 3.5 bazooka.

A nozzle at the rear of the tube reduces recoil to that of a revolver.

A \$19,200,000 contract has been awarded Lockheed Aircraft for prop-jet GV-1 transports for the Marine Corps.

Powered by four Allison T56 turbo prop engines, the GV-1 has a dual capacity as aerial tanker and intra-theater assault transport.



It can carry 92 combat-equipped Marines, 74 litter patients or 35,000 pounds of cargo at 300 knots. Maximum range is 4,300 miles.



A combination of a howitzer and breechloading mortar that fires a rocket-boosted shell has been developed for the Marine Corps. Called the Moritzer, the 115mm piece can be carried by helicopter. It can be fired single shot or automatically.

MajGen John C. Munn will be Asst Commandant and MajGen Wallace M. Greene, Jr., will be Chief of Staff under incoming Commandant Lt Gen David M. Shoup.

Gen Munn, now Director of Aviation, will replace LtGen Verne J. McCaul who retires 1 January. Gen Greene will take over the post now held by Gen Shoup.

Both appointees will be promoted to lieutenant general when they assume their new duties.

Replacing Gen Greene as Deputy Chief of Staff (Plans) will be MajGen Frederick L. Wieseman, CG, 1stMar Brig. Gen Munn will be relieved by MajGen Arthur F. Binney, CG, 2d MAW.

New Director of Reserve is Maj Gen William W. Stickney. He relieved MajGen Alan Shapley who was earlier assigned as CG, MCB, Camp Pendleton.

In other new assignments, BGen Harvey C. Tschirgi, formerly CG, LFTU, Coronado, becomes Asst Chief of Staff (G-4). BGen Frank C. Tharin, now Asst CG, 2dMAW, will assume command of the Wing as relief for Gen Binney.

The Navy's Bureau of Weapons has taken over the functions of the Bureau of Aeronautics and Ordnance. The change, effected 1 December, came a month earlier than was originally expected. The largest Navy technical bureau, it will be headed by RAdm Paul D. Stroop.

Now being mass produced, the Navy's solid propellant Zuni has capabilities both as an air-to-air and air-to-ground rocket.

A general purpose warhead is used against targets for blast or penetration and exploding inside. Another is capable of penetrating the thickest known tank armor. A third warhead is effective against aircraft and can destroy the fastest fighter or the largest supersonic bomber.

With speed exceeding Mach II, the Zuni will function efficiently under any weather conditions and from sea levels to the highest altitudes attainable by today's aircraft.



Shown here, photographed for the first time, the Kaman HU2K turbine-powered all-weather helicopter is expected to be in production for the Navy early next year.

The high-speed helicopter can operate from ships other than aircraft carriers and the Navy has indicated



that the HU2K will replace utility helicopters now operating with the fleet.

The company is also going ahead with plans for a 10-passenger commercial version of the craft.

Aerial maps with error of less than one foot in eight miles have been photographed from an Air Force reconnaissance version of the C-130 Hercules.

Equipped with modified HIRAN (high precision and short range navigation) system, the RC-130 carries a battery of mapping cameras. Electronically stabilized, the cameras are synchronized to provide proper intervals between photographs as a 400-foot roll of film is continuously exposed.

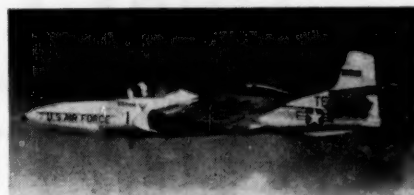
Other equipment includes a television viewfinder for flight line viewing, a terrain profile recorder and photographic data recorders. The camera window, 42 inches in diameter and weighing 325 pounds, is the largest camera lens installed in any aircraft.

Marine and Naval aviation units in

the Far East will soon get free-flying jet targets for air-to-air target practice. The Far Eastern units will be equipped with the KDA-4 Firebee, made by Ryan Aeronautical Co.

An advanced version of the T-37 intermediate jet trainer is now in production by Cessna Aircraft Co. for the Air Force.

Designated the T-37B, the twin-



jet trainer has new communication and navigation equipment and new engines. The 1,025-pound-thrust engines give it a 400mph classification.

Marines found the weather more hostile than the "enemy" in recent exercises at Camp Pendleton and Camp Lejeune.

On the West Coast it was thick fog that delayed the vertical assault phase of PHIBLEX 2-60 for 24 hours. On the other side of the continent the assault on Onslow Beach came off on schedule, but before the operation was over the temperature dropped from the 70s to near freezing.

The 3dProvMarBrig, composed of units from the 1stMarDiv and MAG-36, made up the striking force for the California exercise, called Operation Eagle Eye.

Commanded by Col R. B. Wilde, the brigade made an unopposed vertical assault from the *Princeton*. Some 3,700 men, including a 2,600-man Regimental Landing Team—commanded by Col H. Stiff, took part in the nine-day problem.

Mythical purpose of the exercise was to aid a friendly nation that had requested aid in suppressing guerrilla activity. Because of the country's swampy shoreline, the assault was made entirely by helicopter.

In TRALEX 4-59, some 18,000 men from the 2dMarDiv and Atlantic Fleet participated in a two-week exercise.

Troops left Camp Lejeune by rail for embarkation at Sunny Point Army Terminal, Southport, N. C. From there the 50-ship striking force steamed to Onslow Beach where 6,000 2d Division Marines landed.

Again, the mythical purpose was to aid a friendly nation, this time to fight an invading aggressor.

BGen O. M. Conoley, interim CG of the Division, headed the Landing Force comprised of Regimental Landing Team—2, under command of Col C. R. Baker, and elements of the 8th and 10th Marines, headed by Col R. R. Van Stockum and Col F. J. Karch, respectively.

Meanwhile, back on the West Coast, the 1stBn, 9th Marines headed into bad weather—on purpose—for Operation Totem Pole.

A two-phase problem, the exercise was held at Kodiak, Alaska. In the first phase a recon company landing was made in conjunction with a submarine reconnaissance exercise. It was followed with a battalion landing team assault in the nature of a large-scale, extended raid.

Planned for late November, the battalion landing was purposely held in bad weather for training in cold and wet-weather amphibious operations. LtCol J. R. Grove, 1stBn commander, headed the Landing Force.

THE COURT-MARTIAL of SMEDLEY BUTLER

By Robert B. Asprey

An off-the-cuff remark about Mussolini spelled trouble for this famous Marine Corps hero.

ON THE NIGHT OF 19 JANUARY 1931, a slight, serious-looking man named Smedley Butler spoke before the respectable Contemporary Club of Philadelphia. His off-stage appearance was not unusual: under medium height he weighed but 140 pounds and was inclined towards a round-shouldered posture that defied a correct fit of either uniform or mufti. An easy manner and a crackling sense of humor furthered the deception of mildness, and it was only the face, especially a hawk nose and violent deep-set eyes, that seemed compatible with his reputation: at 49 years of age MajGen Butler of the Marine Corps was one of the most controversial figures in America's military history.

The reason became more apparent on the lecture platform. Speaking extemporaneously on the subject of international disarmament, Butler quickly warmed to his subject, which meant that he was soon roaming the stage, gesticulating violently, his body a mass of movement accentuating thought after vigorous

thought hurled in salty, sometimes ribald, but always original language. "I agree with Dr. Hull of Swarthmore," the speaker said, "if we could all lay down our arms there couldn't be any war. But there are mad-dog nations who won't get the word, who will refuse to sign the agreement, or, if they sign (will) refuse to abide by it." Butler paused, skipped his nimble mind about its memories to find the illustration he wanted: "A friend of mine said he had a ride in a new automobile with Mussolini, a car with an armored nose that could knock over fences and slip under barbed wire. He said that they drove through the country and towns at 70 miles per hour. They ran over a child and my friend screamed. Mussolini said he shouldn't do that, that it was only one life and the affairs of the State could not be stopped by one life!" Letting the terrible words sink in, Butler faced his audience, arms akimbo, head and neck thrust forward, and in a scornful voice demanded, "How can you talk disarmament with a man like that?"



His point was only too well taken. Unbeknownst to him—he had been assured the audience was private, that he could speak in confidence—some member had invited an Italian diplomat down from Washington. The diplomat reported to his Ambassador, who cabled the story to Rome and presented a formal protest to the American State Department. The morning papers ran the story: an American officer on active duty had publicly insulted the head of a friendly power!

Washington reacted swiftly, and frantically. While the Secretary of State, Henry L. Stimson, was apologizing to Mussolini, his subordinates were conferring with admirals in the Navy Department. Butler had caused too much trouble of late and now, in a letter to the Secretary of the Navy, he even admitted that he had spoken the incriminating words. That was enough—formal charges against him were drawn up and presented to the President, Herbert Hoover. On 29 January 1931, MajGen Ben H. Fuller, Commandant of the Marine Corps, telephoned his errant general who commanded the Marine Base at Quantico, Va.: "Gen Butler," came Fuller's crisp voice, "you are hereby placed under arrest to await trial by general court-martial. You will turn your command over to your next senior, Gen Berkeley, and you will be restricted to the limits of your post. The Secretary of the Navy wishes you to know that this action is taken by the direct personal order of the President!"

Smedley Butler told his wife the incredible news. Twenty-five years of marriage to this compact mass of nervous energy had not left Mrs. Butler without a healthy philosophy, and 25 years of a very intense love had not failed to give her a strength often used by her husband, a spiritual reservoir now tapped as Butler relayed the Commandant's order to his junior and friend, BGen Randolph Berkeley. After Butler's two-star command flag had been lowered, he offered his sword to Berkeley who refused to accept it, an act of courtesy that brought tears to Butler's eyes. But Berkeley, a loyal and courageous man, was not content with mere courtesy: he was infuriated by the fact that Smedley

Butler, who wore 18 decorations and was one of four soldiers ever to have been awarded two Medals of Honor, should be arrested by a telephone call and confined to his post where he would be unable to arrange his defense. Jeopardizing his own career, Berkeley at once left for Washington to contact a prominent lawyer, a one-armed retired Marine major named Henry Leonard who had fought with Butler in the Boxer Rebellion of 1900. Leaping to Butler's defense, Leonard was soon joined by one of the most able attorneys in the nation, Roland S. Morris, a former ambassador to Japan who was recruited by Butler's formidable lawyer-aunt, Miss Isabel Darlington.

Counsel did not envision an easy time. Butler was to be tried on two charges, "Conduct to the prejudice of good order and discipline," and "Conduct unbecoming an officer and a gentleman." Called Mother Hubbard charges in the service because they cover everything, they would be nonetheless difficult to refute in view of what Butler had officially admitted saying. On the positive side of the ledger stood the figure of Butler, a rare flash of color facing a drab opposition. Leonard and Morris decided that the best defense lay in putting this entire figure on trial at what hopefully would be the expense of the few words impetuously spoken in the Contemporary Club.

But even while they were determining strategy, outside forces were at work on their client's behalf. The phenomenon that began forming the day Butler was arrested can only be explained by a closer look at the defendant.

When the tumult and shouting had died and his military career was over, Smedley Darlington Butler look a long look at the 33 years which saw him rise from second lieutenant to major general in the Marines, and then he wrote his personal credo: "We live on momentum. If you stop going, you are finished." Butler started going in 1898. Against the objections of his father, Congressman Thomas Butler, he slipped away from the quiet town of West Chester, Penn., added two years to his age and persuaded Col Heywood, Commandant of the Marine Corps, to commission him a second lieutenant and send him to Cuba. There he gained his baptism of fire before the abrupt end of the Spanish-American War. The experience was to become familiar during his next two years in the Philippines and China. As a company commander during the Boxer Rebellion, he fought in the reliefs of Tientsin and Peking, was twice wounded, frequently cited for outstanding "personal bravery," named in British dispatches, and brevetted to captain. He then caught typhoid fever, weighed 90 pounds when carried



Wide World

Secretary of State Stimson—he apologized to Mussolini.

ashore at Cavite, and was finally invalided home to a hero's reception by the West Chester citizenry. Capt Butler was 19 years old!

Here was a crossroads. By tradition and logic he should have returned to his Quaker heritage, gone on to college to become the civil engineer he had always wanted to be. But there was this Marine Corps. A small, go-to-hell outfit of 2,900 troops, its 77 officers were mostly Civil War veterans, tall, straight, bearded professionals who dressed their pride in gaudy blue uniforms, carried Mameluke hilt swords, fed their thirst with chewing tobacco, their fatigue with drinking whiskey, cursed with the metric vigor of Kipling, drilled their troops night and day, knew everything there was to know about their three weapons, the Lee straight-pull 6mm rifle, the Gatling gun and the Hotchkiss revolving cannon. Weird, unorthodox, demanding men, they fought like hell and they won. To be accepted by them, to be admitted to this small band of brothers . . . well, here was something intensely personal, something proud and glorious and exciting that no amount of fatigue and pain and death could diminish, here was a place where you could sometimes find the moment of truth, and this was what Capt Butler chose to do with his life.

His next few years seemed ordinary to those of any young Marine officer. He served in domestic garrisons, aboard ship and on foreign stations. Yet wherever he served, the different always happened. At first it was merely comical, as for example down in Culebra in 1902 when the Navy told him to mount some heavy shore guns in a lopsided competition against a much larger fleet unit. Working half-stripped alongside his men, Butler beat the Navy team and minutes later a celebration shell from one of his newly mounted guns caromed across the bow of Adm Dewey's flagship! A few years later in the Philippines it was a little more serious: stationed with his company in the boondocks and forgotten by the supply boat he took a couple of men and sailed a dinghy across Subic Bay, got caught in a storm, was almost drowned, sailed back with the needed supplies and nearly received a court-martial. The something different about Smedley



Photo by
Lucia W. Robinson

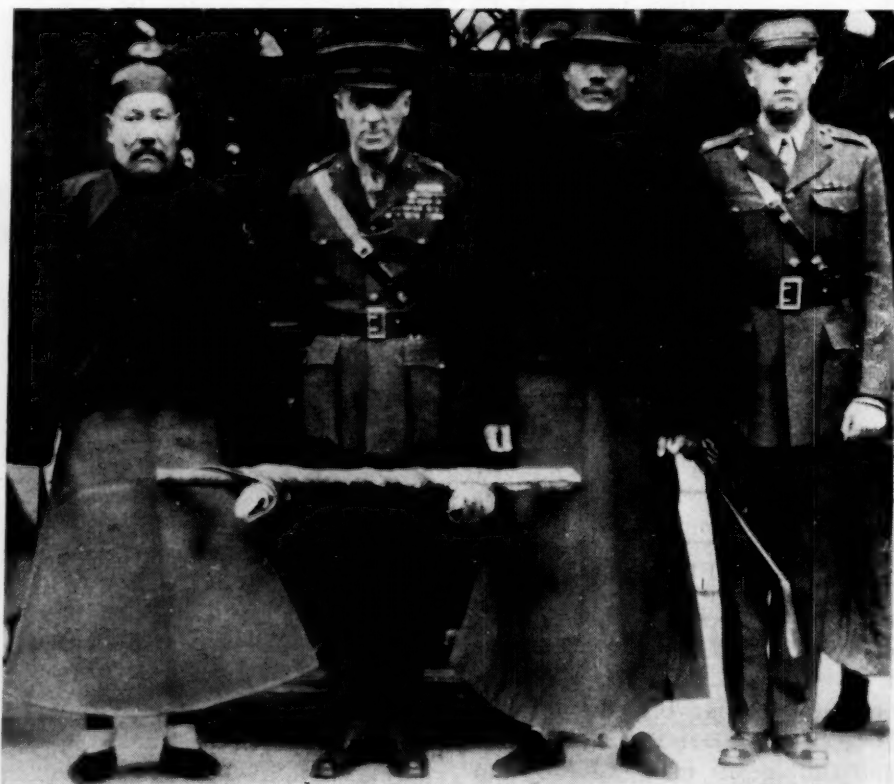
Mr. Asprey's pursuit of military and biographical topics has produced many significant contributions to military history. None, however, has been more aptly told, we believe, than this. It highlights the career of one of the Nation's most highly decorated fighters—that wiry, “give-’em-hell” Quaker whose name was synonymous with Marine Corps bravery—MajGen Smedley D. Butler. Mr. Asprey's most recent book—“The Panther's Feast”—is reviewed in this issue.

Butler inextricably involved the care and comfort and pride of his troops and though such unorthodox actions as working alongside his men drove a number of officers to fury, he also had the annoying habit of gaining “outstanding” fitness reports from his commanding officers. For this reason he was promoted on schedule to major and given a battalion in Panama. To no one's great surprise the 28-year-old major soon turned his camp into such a show piece that even President Taft and Secretary of the Army Garrison visited it.

He had the same flair for combat. Butler was in Panama when America began open intervention in Nicaragua's internal affairs. On three occasions from 1909 to 1912 he took

his battalion to Nicaragua, a campaign he dubbed “the Punic Wars.” Two of the expeditions were actually serious shooting affairs in which he repeatedly displayed the same brilliant combination of courage and wits familiar to China days. And as in China when he once left a hospital bed and, with an unhealed wound in his leg, led his company on the horrendous march from Tientsin to Peking, so in Nicaragua did he leave a sick-bed and, with a temperature of 104°, lead his battalion to the relief of Granada, the malaria so affecting his eyes that his men gave him the enduring appellation of Old Gimlet Eye.

In January 1914, an impending war with Mexico brought his bat-



Smedley Butler arrives in China—“The war may continue but the parties will stop.”



Wide World

Henry Leonard—one arm defense

talion to Adm Frank Fletcher's fleet anchored off Vera Cruz. At Fletcher's suggestion, Butler agreed to make a reconnaissance of Mexico City in case a relief expedition should have to go in to rescue American citizens. Disguised variously as a business man, a secret service agent and a lepidopterologist, Butler completed his very hazardous mission in time to lead his troops in the assault of Vera Cruz. Awarded the Medal of Honor for the latter action, he surprised the Navy by trying to give it back on the ground he hadn't deserved it! The argument was still going on when he was sent in command of a battalion to revolt-torn Haiti. There, after leading several brilliant field expeditions, he was called to a conference concerned with the capture of the last *caco* or bandit stronghold, Fort Riviere. After several senior officers had opined that this operation would require at least 3,000 troops, Butler turned to Col Eli Cole and growled, "Hell, sir, I can take that place with a hundred of my people." He did exactly that and for personally leading the assault—a most delicate few minutes when he and two enlisted men alone faced several hundred wild natives—he was awarded the second Medal of Honor, one he did not try to give back.

Butler was now riding high. Promoted to lieutenant colonel and appointed chief of the newly established Haitian Gendarmerie, a posi-

tion tantamount to Minister of the Interior, he organized and ran a law enforcement agency that gave peace to Haiti for the first time in half a century; in addition, he supervised the construction of over 500 miles of new roads, most of it through virgin mountainous territory. But WWI had meanwhile involved America. Although Butler did not approve of this war, which he privately described as "madness . . . a European blood-bath," he leaped at the offer from his senior, John A. Lejeune, to take command of a regiment in the brigade Lejeune was preparing for the AEF. On the basis of his experience and proven ability, Butler probably rated this command more than any other officer in the Marine Corps. It was denied to him as were his subsequent requests for combat command. To his furious, frantic pleas, Headquarters blandly replied that he was needed in Haiti. In truth, Butler had already accomplished too much too soon and in the process had stepped on a good many toes, some of them important.

The surface villain was his father's position. Since 1897, Congressman Thomas Butler had served as a member of the influential House Naval Affairs Committee and in 1918 he became its chairman. A number of naval officers and even a few Marine officers who certainly knew better had already begun to imply that Butler had won his medals and promotions because of his father's influence. The lie to this canard is held in official operation and fitness reports but, as a study of the vast But-



Wide World

Roland Morris—recruited to help

ler correspondence shows, the relationship between father and son was close. At his father's continuing requests, Smedley constantly sounded off as to the details, including personalities, of whatever local scene he was surveying. Far from seeking personal aggrandizement, whenever he asked his father to do anything he invariably asked it for the good of the Marine Corps. Congressman Thomas Butler, a notoriously independent gentleman whose integrity cannot be questioned, sometimes could not or would not honor his son's notions. Such was the case when Smedley begged his aid in getting him a command in the AEF—hardly a dishonorable request. On



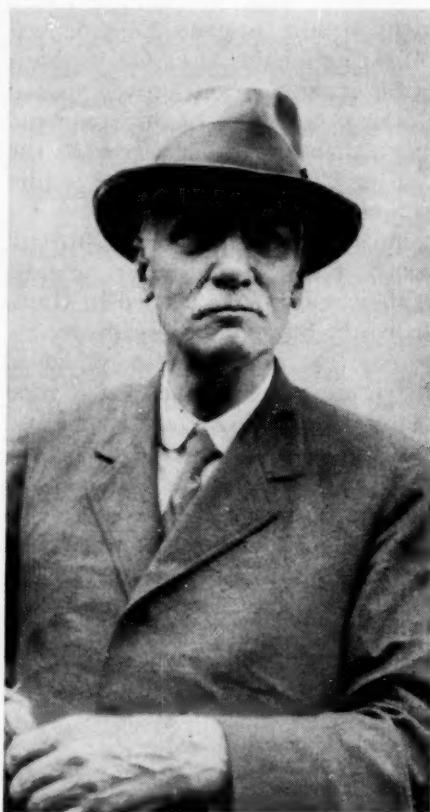
A favorite trick was carrying a shirker's pack.

other occasions the old gentleman paid the closest attention to his son's ideas as, for example, immediately after the war when the son thought that the top management of the Marine Corps was lacking. It was due largely to Smedley that his father worked to have John A. Lejeune appointed Commandant in 1920, again hardly a crime since Lejeune has often been called the best Commandant in the history of the Marine Corps. And it was also due largely to Smedley that in the next crucial years of Lejeune's term, when the very existence of the Marine Corps was threatened, Lejeune was always offered a willing ear by the Naval Affairs Committee at appropriations time, a fact that undoubtedly allowed the Marine Corps its vital role in WWII.

The villain beneath the surface, the real villain, was professional envy. Butler was forever accomplishing the impossible. His experience in France was characteristic. Finally ordered over in command of the 13th Regiment which Pershing ordered broken up with its units assigned to guard and police duties, Butler found himself promoted to brigadier general and given the scapegoat command of Camp Pontanzen, a US Army disgrace of a debarkation center consisting of 1,700 acres of mud and 75,000 American soldiers of whom 16,000 had the dreaded flu. Let Butler get out of this one! When 250 men died on his first day of command, Butler let out a roar that could be heard in Washington and followed it with orders as if barked by a Gatling gun. Acting with the authority of his own gall, (he requisitioned doctors, medicine, food, fuel and blankets) in two weeks deaths from flu were negligible. This was just the beginning. By working himself to the point of exhaustion, by personally leading a burglary of a quartermaster warehouse (to steal mainly miles of wooden "duckboards" for sidewalks—his troops henceforth called him "General Duckboard"), by overspending his rations allowance a million dollars in one week . . . by performing one of the most amazing feats of leadership in military history, Butler turned the scandal of Pontanzen into a decent installation where 106,000 troops could sleep between clean sheets and eat three

hot meals a day. Torn between court-martialing or decorating him, the Army finally awarded him its Distinguished Service Medal, the Navy followed with its Distinguished Service Medal, and France chimed in with one of her medals.

Early in 1927 he faced an even more difficult situation. Three years earlier, in what was perhaps the most unfortunate move of his career, he had accepted reform Mayor W. Freeland Kendrick's appointment as



Wide World

Congressman Thomas Butler

Director of Public Safety "to clean up Philadelphia." By insisting upon impartial enforcement of Prohibition laws he had won the enmity not only of racketeers, but of politicians, hotel owners and others who would hold themselves above the law. By the time of his return to the Marine Corps in 1926 he had also become a Prohibitionist, a conversion decidedly unpopular in the military and indeed in many civilian circles. Ordered to "clean up" the Marine Base at San Diego, Butler at once won the enmity of the local citizenry by eliminating the illicit bootlegging profits. Hard on came another incident when Butler arrested and recommended for general court-martial

a Marine colonel, who made the mistake of appearing drunk and disorderly in uniform at an officers' dance in a public hotel. Spurred by false accounts of the incident in the local papers, newspapers throughout America pictured Butler as a hypocritical reformer who took a drink at the officer's home and then court-martialed him for serving liquor. In the uproar which followed, first with the colonel's minor sentence, then with his death a few months later in San Francisco, the press generally neglected to present the correct facts of the case and Butler plunged to a perigee of unpopularity. At this point he was sent to China.

Accompanied by Will Rogers' quip—"Smedley Butler has arrived in China. The war may continue but the parties will stop"—he took command of the 3d Marine Brigade with orders to protect American lives and property against a militant Nationalist movement reminiscent of the Boxer Rebellion. His situation was crucial: the smallest slip would be magnified a thousand-fold. His enemies rubbed their hands: let Butler get out of this one! Butler did just that. For the next year and a half he carried out his country's policy with a brilliance that no one could diminish, though some tried. Not only did he prevent a shot from being fired in anger, but by such projects as personal supervision of road and bridge building from Tientsin to Peking he won the friendship of millions of Chinese who twice presented him with the Umbrella of Ten Thousand Blessings, an incredible tribute to a foreigner!

The reason that Butler could accomplish these and other tasks, often in the face of powerful opposition, and the reason that he was sometimes envied and feared, particularly by the top command of the Navy, are the same: he was a supreme leader of men. Besides being capable and courageous and self-confident, he was decidedly human—one story has it that as a major general he knew the name of every officer and most non-commissioned officers in the Marine Corps. He always led from the front, never the rear: on the march one of his favorite tricks was to carry the pack of any malingerer and thus shame the lad into

keeping up. This practice he continued as a brigadier general (and because of it once suffered a minor heart attack—characteristically, he told no one but a doctor). An emotional man, he could play on the emotions of his men. One of his tested devices was music: his first action in taking over the misery befogged camp of Pontanezen was to collect 60 Italian bandmen and set them to playing in eight-hour shifts, up and down the mud rows, day in, day out. With his people singing, the so-called miracle of Pontanezen was under way. Another of his tricks was the harangue or personal pep-talk in which every psychological appeal from motherhood to the Statue of Liberty was tossed at the troops to erase their fatigue and arouse their will to do a job. A retired officer, speaking of Butler's China command in 1928, recalled that "in order to unload a transport, the junior officers, of which I was one, turned to and worked with the troops. Never before or since have I known a general who could actually inspire officers to want to do physical labor."

Generally speaking, his men worshipped him and most officers admired and emulated him. But more important to his fate was the large American public, segments of which he faced from the lecture platform upon his return from China. In 1929 Prohibition was not the same joke of a few years earlier nor was the Administration of Herbert Hoover as comfortable as that of Coolidge. Butler had something to say about each and now people flocked to hear him. Most of them went away impressed by the small general who could never pull his big punches.

The personal price of his forceful personality, however, was high: it cost him the position he had always wanted, Commandant of the Marine Corps. When Butler was ordered back to Quantico in 1929 and promoted to major general, many persons believed that these were preliminary moves to the appointment. The Marine Corps had lost a good friend with Thomas Butler's death in 1928, and his foes now set about to insure its loss of an outstanding leader. Their pin-prick war against Butler first came to a head by a

speech of his in Pittsburgh in which he implied that the American State Department had rigged the Nicaraguan elections of 1912. Although perfectly true, Butler's indiscretion in mentioning it was taken to task by the Secretary of the Navy, a polo-playing yachtsman named Charles Francis Adams. A fearful row between the two men ensued, but complete catastrophe was avoided mainly because of MajGen Neville who had replaced Lejeune as Commandant. Neville's healthy influence, however, was dissipated by severe illness and then, in July 1930, he suddenly died. The Commandant's appointment was still open when Secretary Adams visited Butler's Quantico command, expressed fault with everything he saw and finally succeeded in drawing a few deadly barbs of wit from Butler. That was apparently enough to salve Adams' conscience. Several weeks later a Navy selection board decided on a new Commandant. The "safe" choice was Ben Fuller who was senior to Butler in years but junior in rank. Such was the state of affairs when Butler made his speech six months

later to the Contemporary Club.

During the days when Gen Butler was a prisoner on his own post, large doses of his incredible career were recapitulated to a newspaper reading public who weighed it and found it not wanting, found more to approve than to disapprove, found time to write letters and pass resolutions and generally make its attitude known. Public reaction hinged on several factors. As for the immediate offense, a good many American citizens, including some powerful ones, despised Benito Mussolini and all that he stood for. These same people, believing in the constitutional right of free speech, saw nothing wrong in Smedley Butler privately voicing their own antagonisms, particularly when his accusation was true.¹ Too, the very careful administration of Herbert Hoover made citizens seem relieved to find a public official willing to

¹The anecdote told by Butler belonged to the journalist, Cornelius Vanderbilt, Jr., who later said that Butler had misquoted him: after running down the child Mussolini observed Vanderbilt looking back and, patting his knee, said, "Never look back, Mr. Vanderbilt; always look ahead in life."



Watching Quantico parade with Commandant Neville—March '29.

declare a positive belief about anything. This reaction was given currency in a series of editorials similar to one in the *Washington Daily News* of 30 January which stated that, "unless we are mistaken, the American people are likely to consider these Cabinet officials guilty of a strange timidity toward Mussolini on one hand and of an unwarranted harshness toward a splendid American soldier on the other. . . ." A narrower segment of opinion interpreted the action as a politically inspired but personal vendetta of Secretary of Navy Adams and President Hoover against Smedley Butler. Among the thousands of sympathetic messages that poured into Quantico were two very revealing telegrams. They were signed by Governor Franklin D. Roosevelt of New York and Former Secretary of Navy Josephus Daniels, and each volunteered to testify in Butler's behalf!

Worsening the Administration's position was the effect of the American reaction on the international situation. At the time, Italy was negotiating with France over a naval limitations agreement, a conference dear to Secretary of State Stimson's heart. France immediately publicized the Butler case and its newspaper consequences as a proof of American repugnance to fascist Italy, a campaign that, by continuing in the days leading to Butler's trial, could only impede the bilateral negotiations between Italy and France. Italy, herself, was so alarmed at the American reaction that she soon let Stimson know that the whole incident was an unfortunate error and that Butler's trial should be dropped at once.

A hint of our Administration's fear of public opinion came with an unofficial letter to Butler that confirmed his arrest but extended his arrest limits so that he could arrange his defense. Butler, himself, was understandably worried and nervous and wished to hurry the trial, but Leonard, arguing that the defense was being aided by the favorable storm of publicity, refused to consider this. Leonard was correct. The first real break occurred on the night of 5 February when Leonard was contacted by a personal representative of the Administration who wished to discuss the possibility of stopping the trial!



Cheering the football team as Marines upset Army—December '22.

Leonard received a concrete proposal the next day: the trial would be cancelled but Butler would be detached from his command, reprimanded and placed in an indefinite status of "awaiting orders." Leonard's reaction, a rather rude snort, was repeated to a second proposal delivered a few hours later: the Administration would be content merely to detach and reprimand Butler.

The third proposal, in fact a surrender, was made the following day: if Butler would write an official letter of apology, there would be no trial. Leonard not only refused this offer but threatened to call off the negotiations and go on with the trial, a strategy that stripped the thoroughly frightened Administration of any pretense and caused it to ask Leonard just what would be acceptable. After conferring with other counsel and with Butler, Maj Leonard informed the Administration that But-

ler would tender a written apology for having "caused embarrassment to the Government," and would accept an official "reprimand" which Leonard himself would write! In return Gen Butler would immediately be restored to his command with full rank and privileges. The Administration agreed, the necessary papers were hurriedly drawn up, the principals gathered together. The farce was concluded on a Sunday afternoon so that the Monday newspapers could carry the story.

Thus did Smedley Butler win his last official battle, but his victory was of gall and wormwood. Already embittered by having been passed over for Commandant, he had planned a retirement that was now hastened by a feeling of utter disgust. On 1 October 1931, friends from all stations in life gathered at Quantico. There they saw his two-star command flag hauled down, this time with full honors. USMC



IN 1954, GYRODYNE COMPANY, designers of one-man helicopters, drones, and ground effects machines, was given an elementary problem by BuAer: How good are amphibious helicopters (equipped with pontoons) under rough water conditions?

The answer was discouraging. It was found that standard hull-type models pitched violently in choppy seas; pontoons had little or no effect in steadying the craft in rough water.

The next question was tougher: What to do? BuAer thought the answer lay in two pair of floats with "tilting" action. In smooth water the floats would be lined up horizontally (bottom left). Under conditions approaching "sea state four"

(five-foot waves), floats would be tilted by the pilot to a vertical position (bottom right). Hydrodynamic engineers reasoned that vertical floats would minimize reaction to high sea states.

They figured right. The results of several tests made in May and June 1959 by Gyrodyne were even better than expected. A quarter scale model of hull-type helicopter configuration was set adrift in the swells of Great South Bay off the southern coast of Long Island. The model withstood waves corresponding to sea state four. With its floats in vertical attitude there was almost no pitching and rolling. Drifting was also minimized. A gentle bounce was the only response to the waves.

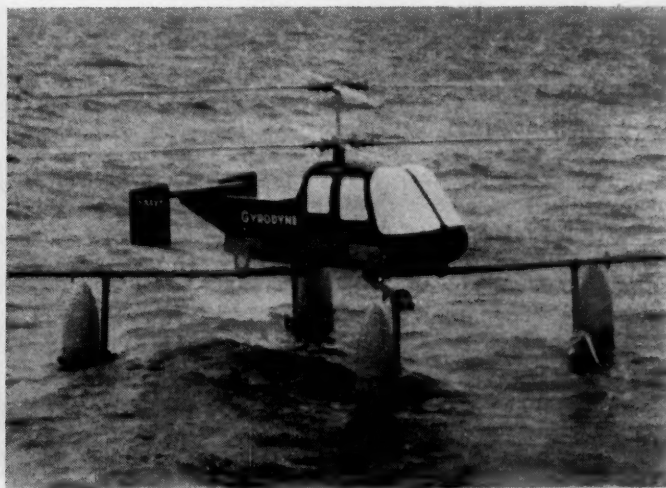
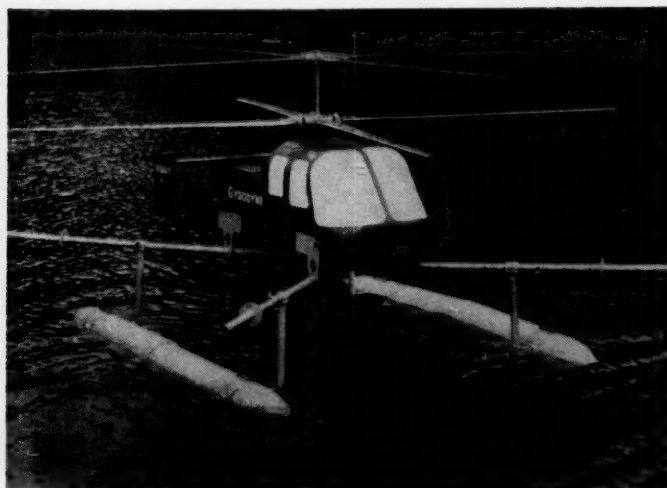
These tests indicate that tilt-floats

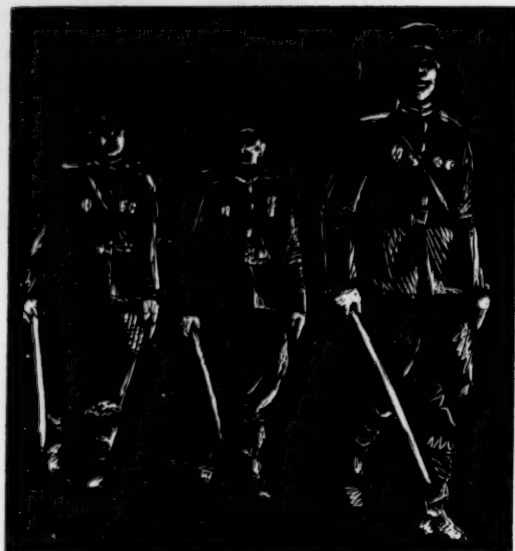
are tailormade for air-sea rescue work. A helicopter fitted with tilt floats should be able to land in rough seas alongside a downed pilot. Since the test showed that once it was landed the 'copter would remain still, a helping hand could literally be extended, doing away with the hazardous inflight winch method.

Gyrodyne has begun adapting the tilt-float principle to its XRON-1 Rotorcycle (top of page). Full scale tests will begin during the coming year, probably in Long Island Sound. If these are successful, the concept of tilt-float operation will be carried to present rescue helicopters used by Navy and Marine Air.

USMC

AMSgt Joe Dodd





THE SOVIET OFFICER CORPS

**Just How Good Are the Officers
Who Command the Red Army?**

Reprinted from
INFANTRY

By Maj P. S. Grant, USA

IN SOME THIRTY YEARS, THE Soviet Union has risen meteorically from the ranks of the third-rate powers to a position of almost absolute authority and domination over a great portion of the world. A large measure of credit for this change must be given to the Red Army. Without this force, backed by a well nigh inexhaustible pool of manpower, it is doubtful that the Soviet nation as it now exists could have been built. To understand this military machine and to evaluate its potentialities, it is necessary to investigate the corps of officers which direct it. Just how good is this officer corps? This is a vital question.

In my opinion, we can evaluate this professional body by examining the broad sources from which the Soviet officers have been drawn, the educational background of these officers and certain characteristics of the Russian people. Quite naturally, each of these areas must be considered in light of the impact which

Communist ideology has on every facet of Soviet life.

The bulk of Red Army officers has come from three main sources. The first of these is that group which took part in the revolution and grew with the Communist cause. Initially, this group consisted of a combination of hardbitten revolutionaries with meager educational background, and professional soldiers who were formerly leaders at various levels in the Czar's Imperial Army. These latter men gave a degree of professional competence to the new army. The revolutionaries were generally tough, vicious men who achieved their positions by violence, terror and a measure of individual military ability. Some were corporals one day and regimental commanders the next. For the most part they were of peasant stock and generally displayed no academic brilliance. However, they did display great loyalty and singleness of purpose.

During the revolution and the civ-

il war which followed, many of these men were killed. Others have been disposed of since that time. The purges of 1936 removed many who were competent militarily, but who had aroused the suspicions of the Marxist leaders. Only a few of these original Red Army officers are left, but these few form a firm core of die-hard Communists. These men hold the important command positions within the army today. It would be folly not to realize that these leaders are eminently capable in the art of war. These are the men who commanded the regiments, divisions, armies and even fronts in World War II. Those who survived the war, politically and professionally, comprise this firm core of which I speak.

The second broad category of officers is made up of battle-tested and battle-trained junior officers and former noncommissioned officers who fought with the Soviet Army in World War II. These are generally men who proved themselves to be



the best combat leaders. The Red Army hierarchy saw to it that only the best were retained. These men were not hamstrung by Party affiliations at the time; their combat ability has been tested; and although they certainly must be politically well-schooled by now, they form a very firm base of battle-bred leaders on which to build an effective army. The men who make up this group form the major part of the field-grade element in the Soviet Army today. They did not undergo extensive training in the art of war prior to actual participation against the Germans. Most of what they learned was learned under fire and under the most extreme conditions. It might be said that this group consists of the natural soldiers.

The Soviet military training system has refined these veterans with education, not only in the military arts, but also in other fields which I shall discuss later. These officers contribute strength to the Soviet officer corps. However, in this segment of the corps there may be a hidden weakness, for many of these men are soldiers first and Communists second. They place high value on military talent and, although they have been trained in Communist ideology, their reaction to the removal of someone such as Marshal Zhukov must be somewhat different from that of the full-fledged Communist. These officers fought on foreign soil and are bound to be aware that all the statements made by their political leaders about the superiority of the Soviet standard of living are not necessarily true. It requires no highly educated man to recognize such things. This group, generally speaking, because of its wartime background and contact



with foreign lands, might well question Communist slogans and ideas, and pronouncements about Soviet superiority.

The other major segment of the corps consists of the new blood— young men graduated from the numerous academies and officer candidate schools under the Soviet military education system. Each combat arm and technical service operates a number of these schools, which correspond to our officer candidate schools. For example, the Infantry arm has upwards of 20. Candidates in this part of the education system undergo a tough two or three years of training. Instruction is designed to produce physically tough, competent junior leaders for a particular branch. The candidates are fully schooled in both political and military theory. This theory is put into practice during brief periods of service with units on maneuvers, so that when these men graduate they are fully aware of the practical aspects of their profession.

Half of the officer candidates— actually the more valuable—are graduates of the Suvorov Schools. These are academic institutions established in 1943 to lay the foundation for an officer caste and to provide a means of caring for hundreds of thousands of war orphans. They are good examples of the effort being made by the USSR to develop a first-class military force.

Students enter the Suvorov schools at the age of eight or nine and are taught both academic and military subjects. They lead a strict military life for ten years, after which they are sent to one of the service schools

for specialized officer candidate training. Such an education, begun in the formative years as it is, tends to produce highly proficient soldiers.

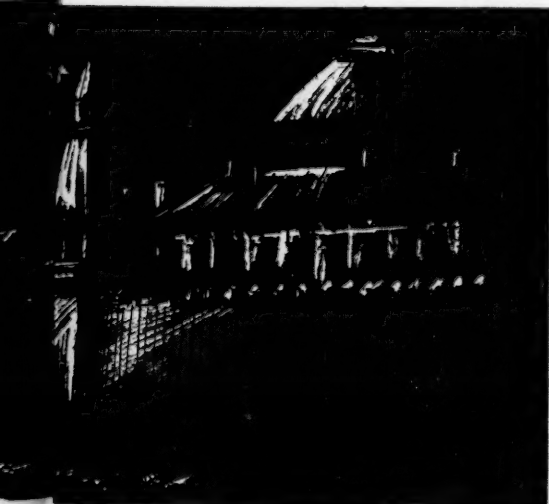
Today there are about 50 Suvorov schools training orphans, sons of high government dignitaries and sons of military personnel. Every effort is made to treat the students as an elite group. They wear special uniforms and insignia. Quite naturally, they are taught Communist ideology and are thoroughly impressed with the importance of their position in the Communist state. It is certainly a fair evaluation to state that they make a well-trained and indoctrinated group of Communist soldier-officers.

Other sources of officer candidate material for the various branch schools are men who are recommended by the Party and outstanding enlisted men who have finished their compulsory tour of active duty.

As already mentioned, the candidates in these schools receive a thorough and extensive military education. The officer instructors who staff the schools are highly competent and specially selected. Although the students are worked hard, they receive special treatment. Their quarters, rations and clothing place them above the enlisted ranks and reinforce the concept that they are moving toward a better life.

This is indeed true, for throughout the educational system and in actual practice a distinct effort is made to place officers on a plane apart from and above enlisted men and civilians. The officer has better pay, better food, better living conditions and better clothing. Even with-

(Continued on page 39)



★ SOVIET PAY ★

Adapted from ARMY INFORMATION DIGEST

✿ **MILITARY PAY SCALES IN THE** Soviet Union are adjusted to allow the maximum number of men to be kept in uniform at minimum cost to the state. Soviet Army personnel policy—as reflected in its pay scale—is to retain in service a relatively highly paid, privileged corps of officers to furnish the professional nucleus for training large numbers of poorly paid conscripts.

No particular effort is made to recruit enlisted men for extended service. Of the estimated 2,500,000 men in the Soviet ground forces at present, roughly 83 per cent are conscripts, 14 per cent are officers, and the remaining 3 per cent are reenlisted soldiers.

Annual enlisted pay ranges from 360 rubles for a private in his first two years of service to 1,800 rubles for a conscript master sergeant. In the third year of service, the pay is doubled for every grade except private first class and private.

Reenlistees are fairly well paid by Soviet standards. A reenlistee private first class, for example, receives roughly seven times as much as his conscript counterpart. Despite the substantial pay increases, however, reports indicate that conscripts are reluctant to reenlist. Moreover, it appears that it is Soviet policy to limit the number of reenlistees.

The base pay for selected examples of Soviet officers with approximate dollar equivalents is shown in Table 2. In addition to rank and longevity pay as in the US Military, the Soviet officer also receives additional pay for the duty he performs. Total annual base pay ranges from 56,160 rubles for a major general in command of a division to 17,160 rubles for a senior lieutenant commanding a platoon. If the lieutenant commands a company, he gets an additional 2,400 rubles.

The base pay of a major general is 156 times that of the conscript private in his first two years of service. In contrast, the base pay of a US officer of comparable rank is about 15 times as much as is paid to a private.



Table 1

ANNUAL PAY OF SOVIET SOLDIERS

| Rank | Conscripts | | | | | |
|-------------------|----------------------------|----------------------|--------------------|----------------------|------------|----------------------|
| | 1st and 2d Year of Service | | 3d Year of Service | | Reenlistee | |
| | Rubles | US Dollar Equivalent | Rubles | US Dollar Equivalent | Rubles | US Dollar Equivalent |
| Master or 1st Sgt | 1,800 | 180 | 3,600 | 360 | 8,400 | 840 |
| Sgt 1st Class | 1,200 | 120 | 2,400 | 240 | 7,200 | 720 |
| Sgt | 900 | 90 | 1,800 | 180 | 6,000 | 600 |
| Cpl | 720 | 72 | 1,440 | 144 | 4,800 | 480 |
| Pfc | 480 | 48 | 840 | 84 | 3,600 | 360 |
| Pvt | 360 | 36 | 600 | 60 | | |

Table 2

EXAMPLES OF ANNUAL PAY OF SOVIET OFFICERS

(Assignment rates shown are the average amounts for the command positions indicated)

| Rank | Rubles | Assignment | Rubles | Probable Longevity Pay | Total | US Dollar Equivalent |
|--------|--------|------------|--------|------------------------|--------|----------------------|
| | | | | Rubles | | |
| MajGen | 19,200 | Div Cmdr | 24,000 | 12,960 | 56,160 | 5,616 |
| Col | 15,600 | Regt Cmdr | 19,200 | 8,700 | 43,500 | 4,350 |
| LtCol | 13,200 | Bn Cmdr | 14,400 | 5,520 | 33,120 | 3,312 |
| Capt | 8,400 | Co Cmdr | 10,800 | 2,880 | 22,080 | 2,208 |
| SrLt | 7,200 | Plat Cmdr | 8,400 | 1,560 | 17,160 | 1,716 |

Table 3

AVERAGE ANNUAL BASIC PAY OF MARINES

(Excluding rental allowance and subsistence where applicable)

| Officer | | Enlisted | |
|---------|----------|-------------------|---------|
| MajGen | \$16,200 | Master or 1st Sgt | \$4,308 |
| Col | 11,052 | GySgt | 3,864 |
| LtCol | 8,800 | Sgt | 2,664 |
| Capt | 6,050 | Cpl | 1,849 |
| 1stLt | 4,310 | LCpl | 1,326 |
| | | Pfc | 1,081 |

The standard of living of the Soviet Army officer is higher than that of most Soviet citizens in positions of comparable responsibility. The only exceptions are certain categories of Communist Party officials and highly qualified representatives of the arts and professions. A civilian technician in the USSR, for example, receives about 11,000 rubles annually; a senior lieutenant, whose responsibilities are theoretically equal, receives 17,160 rubles.

Moreover, the lieutenant can supply the needs of his family at military stores at a much lower rate than the civilian who must buy at regular government stores. When the various other benefits of the Soviet officer, such as free uniforms and allowances for rations and quarters are considered, the difference between the officer's standard of living and that of the technician is magnified.

US MC

(Continued from page 37)

in the officer corps, a strict class consciousness exists. The captain is superior to the lieutenant and so on up the line. In short, the "caste system" is officially fostered, strictly adhered to and well established.

These constitute the principal sources from which the Soviets have drawn and are drawing their officer corps. The corps today is distinctly different from the group of elected officers of widely varying experience, education and ability who led the Red Army during and after the revolution.

The Soviets have made great strides in setting up a comprehensive system for schooling the officers of the Red Army. Each branch and service has an advanced school for its own officers, generally the same as our branch schools. However, there are two principal differences between their schools and ours. Whereas our courses extend a maximum of ten months, the courses for the Soviet officers run from two to three years. The second difference is that, on completion of the course, considerable effort is made to place graduates in positions where they may make maximum use of what they have studied.

The next step in Soviet officer education is the Frunze Military Academy. The Frunze Academy may be compared to our Command and General Staff College. It prepares officers for work on division, corps and army staffs. Successful completion of Government examinations is required both for admission and for graduation. The program of instruction is worthy of note (Figure 1). It is obvious from the amount of time devoted to educational subjects that this school assists in the development of officers who will carry into foreign countries the Party's political banner as well as the military banner.

Finally, there is the Voroshilov Higher Military Academy. This school compares with our United States Army War College. Students are hand-picked and individually confirmed by the Central Committee of the Communist Party. The curriculum is similar to that of the Frunze Military Academy, except that it deals with higher levels. It is interesting to observe that this course of instruction runs for two years and that, in addition to military sub-



jects, foreign language study continues. Senior field-grade officers attend this school. A one-year refresher course is conducted at this academy for general officers. The officer-student attending this school, as well as the Frunze Academy, can also expect to put into practice what he has learned, immediately after graduation.



These three courses make up the general pattern of higher schooling for the Soviet officer corps, but the training system extends much further than just this formal schooling. As in any army, not all officers measure up mentally for selection for school training. In an effort to improve the men who don't, great stress is placed on correspondence courses and reduced versions of the regular schools. Since promotion and retention in the Soviet Army depend on ability, all officers constantly endeavor to keep pace and many avail themselves of these opportunities.

It should be emphasized that the Soviets feel that even though warfare

in the future may see the use of nuclear weapons against civil populations and industry, the task of destroying the enemy's land force will remain the principal one, and this task will fall to the army. It may or may not require the use of tactical nuclear weapons.

The first actual military training effort that had to do with nuclear warfare took place in 1953. Since that time, much work has been done in training the Soviet officer in nuclear warfare. The first manuals dealing with nuclear warfare were issued in 1954. In this field of training, the Soviets stress the need for mobility and dispersion, while pointing out that these tactics present excellent chances for decisive action on the part of unit leaders. The offensive attitude is also stressed. In the February 1955 issue of "Military Thought," Marshall Romistrov stated, "In future wars . . . it is very important that military commanders at all levels and ranks be able to make audacious and bold decisions." Thus we see again the need felt by high Soviet military commanders for men with initiative.

Soviet atomic training places emphasis on the fact that an extremely powerful weapon is now available to field commanders, but in the Soviet view, this weapon has not lessened the requirement for a large land army. The Soviet officer is taught that nuclear weapons require refinements and improvements in techniques already practiced, but will not remove the necessity of destroying the enemy's armed forces. From the Soviet officer's point of view, the advent of the tactical nuclear weapon also demands increased skill and initiative on the part of field commanders.

Briefly, this is the general pattern of education and training of the Red Army officer corps, but the study of this group is not complete without a

| SUBJECT | TIME |
|--------------------|------|
| Tactical Training | 30% |
| Political Training | 20% |
| Military History | 20% |
| Foreign Languages | 15% |
| Staff Functions | 10% |
| Miscellaneous | 5% |

Figure 1.
Frunze Academy program of instruction.

full consideration of the Russian character and how communism conditions Ivan's thoughts and actions. The Russian people are made up of many different ethnic groups. Despite the apparently excellent system of development of the Soviet officer corps, it is in this area that the greatest chink in the Soviet armor may be found. These groups differ in background, language (over 100 of them), traditions and customs, and racial characteristics. Nevertheless there are certain traits which are generally common to all.

Traditionally and factually, the Russian common man has always led a rigorous and difficult life. He has for centuries been under the heel of some monarch or dictator. He has always scraped for his existence. He has always been downtrodden. As a result of this, he is a generally moody and fatalistic individual. He does not expect a great deal from life and, therefore, his initiative is weak. On the other hand, his lack of things which make life simpler and easier has accustomed him to subsisting on the bare essentials. This has made him physically tough and better prepares him for the rigorous life of a combat soldier. In addition, since he has lived the greatest part of his life close to the soil, he is better adapted to the combat requirements of patrolling, camouflage, movement over difficult terrain and improvisation. It might be proper to term the American soldier a "city boy" possessed of a minimum of field lore, and to term the Russian a "country boy" with an extensive background of field lore.

Having been led most of his life, it is natural for the Russian to accept authority with little question. Having been subjected to severe demands and few rewards, he is used to strict and inflexible discipline. At the same time, this environment has



stifled his ability to express himself or to cope with situations for which he has no previous experience as a guide. His environment also tends to give him an inbred fear of, rather than a respect for, authority.

The Russian boy, when he was growing up, never owned a Model-T Ford. He never tinkered with a "hot-rod." For the most part, his mechanical know-how is limited to what he has been taught by the Army. It is only fair to state, however, that he proved himself quite capable of employing his relatively simple, but effective, equipment against the Germans.

All of this might be summed up by saying that the Russian is a well-disciplined, physically hard, fatalistic, herd-bound man. These characteristics, coupled with his follower type of disposition, make him an excellent soldier in the crowd. They do not necessarily fit him with leadership qualities so necessary in officers. The experiences of World War II point up the dearth of individual initiative in the Soviet officer corps, and there are distinct efforts being made to overcome the lack of this essential quality. The very system, however, which recognizes this de-

ficiency depends a great deal on the lack of this quality in the individuals who serve the system. The contradiction is important to our analysis. Initiative calls for the soldier who has a new idea to advance it, even in the face of opposition or apathy. Yet the Soviet officer has been brought up in a society which scorns deviationists. It would appear that a man encouraged to be conformist throughout his formative years would not suddenly develop a great amount of initiative. This effect of the Communist system on the officer corps is profound.

As has been pointed out, each course of instruction in the military school system includes a good measure of political instruction. Each unit in the Soviet Army has its political officer. This man is greatly feared, and rightly so, for he reports on the general attitude towards political training within each organization through special political channels. He also reports on the political reliability of commanders. This method of requiring one man to inform on another has done much to insure the success of communism. It is an effective control, but it also has bred distrust and fear to such an extent that it tends to stifle initiative even further than the national character of the people already has stifled it. Truly professional soldiers must tremble to witness the removal of Zhukov, the hero of the Soviet people. The Army on one hand seeks to develop thinking leaders. On the other hand the Party tends to stifle any such desire in young men who want to improve their position and remain in favor.



Another apparent contradiction—and quite possibly what might be a significant weakness—lies in the educational system. The Army is striving to improve the educational background of its leaders, yet it is obvious that the more a man is trained to think logically and to seek new knowledge and ideas, the more his intellect demands that he find *truth*. This fostering of a better educational pattern for the officer corps may in the end produce more difficulties than benefits for the Communist system. Communism is built on lies and half-truths. It flourishes best in the uneducated and in those who have no desire to seek the truth. In the attempt to improve the officer corps the Soviets may well be planting the seeds of communism's destruction.

It is impossible, of course, to predict what the outcome of this educational process will be. To be sure, it has improved the military competence of the Army and will continue to do so. Recent developments would seem to indicate that the Soviet leaders are well aware of the tremendous importance of the Army in maintaining their own positions. The relief of Marshal Zhukov bears this out.

There are two additional points of significance which must be mentioned. The Russian people for centuries have had a deeply rooted religious conviction. Religion has been played down and oppressed by

communism, but churches still exist and in the mass of the people there is an inherent belief in God. Going hand-in-hand with this belief is a tremendous love of their homeland. Though they have been oppressed and roughly treated over the years, they do not hesitate to rise to the defense of their homeland. This fact has been amply confirmed by history, as both Napoleon and Adolf Hitler could testify. Were it possible to convince them that they



were being liberated from the yoke of communism, the situation might prove different. Currently, the people are told that they are preparing to defend their country against American imperialism, and this propaganda tends to make the Army a loyal and formidable force, since the officer corps is subjected to the same hate-campaign as are the people.

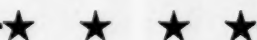
In general, it can be said that the Red Army officer supports the Com-

munist system for several reasons. The constant political indoctrination tends to make him believe that he is preparing to defend his homeland and that communism is a superior form of government. He is afforded extra privileges and plays an authoritative role in the supposedly classless society. He knows nothing now—or at best only a limited amount—of the other forms of government and standards of living throughout the world. But there is some question whether he will continue to support the system when his increased education leads him to seek the truth.

It would appear that the Soviet officer corps over-all is excellent. It is well-educated militarily, well-indoctrinated politically, and it is proud and confident. Its sources of weakness derive from natural characteristics, one of which is lack of initiative. As this obstacle is overcome to secure the attendant military benefits, the ability of the Party to control the army may be reduced. Without full support of the military forces, the Party is in jeopardy. One has but to read the daily papers to see the maneuvering done to retain that control.

It is conceivable that with further development, the Soviet officer corps might rise to full power within the Moscow arena. It is a strong, loyal body of competent military men which demands our respect and continued study.

USMC



Real War Planning

☛ DURING THE YEARS AFTER 1937, when isolationism ran rampant, and defense—not offense—was good national politics, the Marine Corps, offensive force *par excellence*, found it difficult to share in the increasingly liberal naval appropriations of the period. Adm William D. Leahy, the Chief of Naval Operations, told Major General Commandant Thomas Holcomb that the Marines should think up some way to make themselves look defensive. Gen Holcomb—mindful of Leahy's big warship construction program—shot back, "If you can convince Congress that a battleship is a defensive weapon, I ought to be able to do it with Marines."

In September 1939, after President Roosevelt's declaration of limited national emergency, Holcomb's time came. He walked into Adm Leahy's office with a plan for modest expansion of the 2 Marine brigades at Quantico and San Diego, and for 7 large new units for advanced base service—to be called *defense* battalions. The Admiral's ordinarily forbidding countenance dissolved into a grin.

"Wonderful!" he replied. "That's what I call *real* war planning."

Col R. D. Heinl, Jr.

By Mutual Agreement

☛ THE COLONEL MARKING THE FITNESS REPORT was enjoying himself. His subject, a young, irresponsible lieutenant didn't measure up. Down the page flashed his pen. Each item was checked "unsatisfactory," or, at best, "below average." When he reached item 18 he didn't waver. "Prefer not to have" he marked. In signing the fitness report, the lieutenant was equally as frank. Scrawled above his signature were the words, "This arrangement entirely satisfactory with me."

Maj J. C. Gasser

ORGANIZED AIR-GROUND RESERVES—1959

✿ THIS YEAR, FROM SOME 300 ORGANIZED RESERVE UNITS, MORE than 30,000 career Reservists who spend their "off-duty" time in civilian jobs converged on posts of the Corps. Their mission: the serious business of being Marines.

From all walks of life, they blended readily into well-organized, integral units.

Marines from Oregon, Georgia, Texas and Maine took in stride the rugged training and long hours, the sweat and sore muscles that are all part and parcel of summer training. And they found it gratifying.

Hosts of the Regular Establishment consider it an honor and a privilege to welcome aboard these Reservists—men who have proven an indispensable need in small wars; the backbone of the Corps in a big one.

Here are a few Ready Reserves at work in the summer of 1959.

USMC



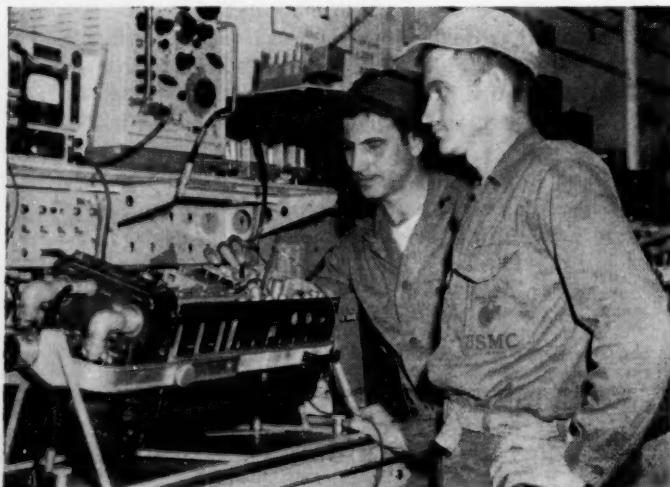
All Photos
Official USMC



This trio installing snorkle on a truck, take part in supporting the "Force in Readiness."



Ordnanceman works over M-1 to insure running start for rifleman firing range at Lejeune.



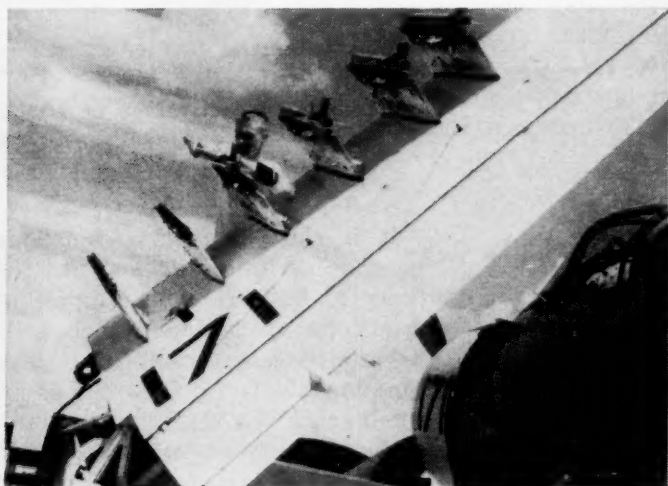
Skilled technicians use summer training to brush up on GCA gear—in bad weather, a pilot's eye.



Artillerymen keep their hand in—delivering 105 Howitzer fire at Lejeune.



Picking 'em up and laying 'em down is the same everywhere. Only the terrain is different—but all of it is rugged. These Reservists hiking in the Mojave Desert are taking part in "Operation Handyman," biggest of its kind.

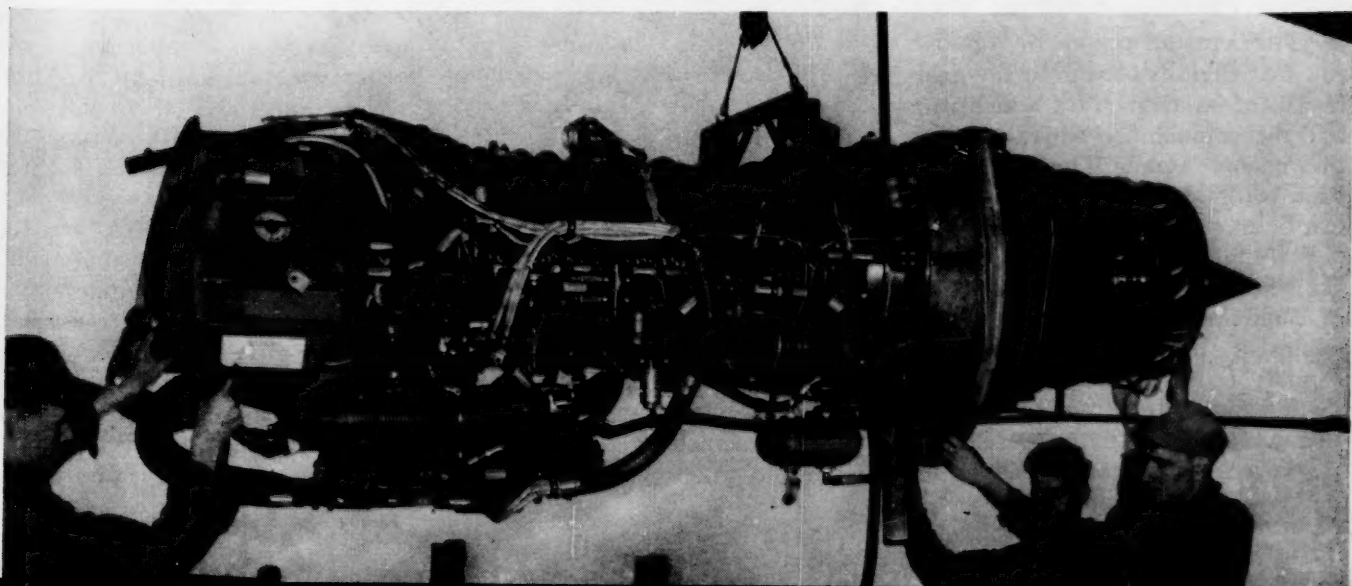


This Marine's on-the-job know-how in aircraft armament stems from year-around training program.



Air controllers operate TACC during "Operation Ready"—1959 summer training exercise.

Training like "Operation Ready" gives mechanics a crack at complex aircraft engines.

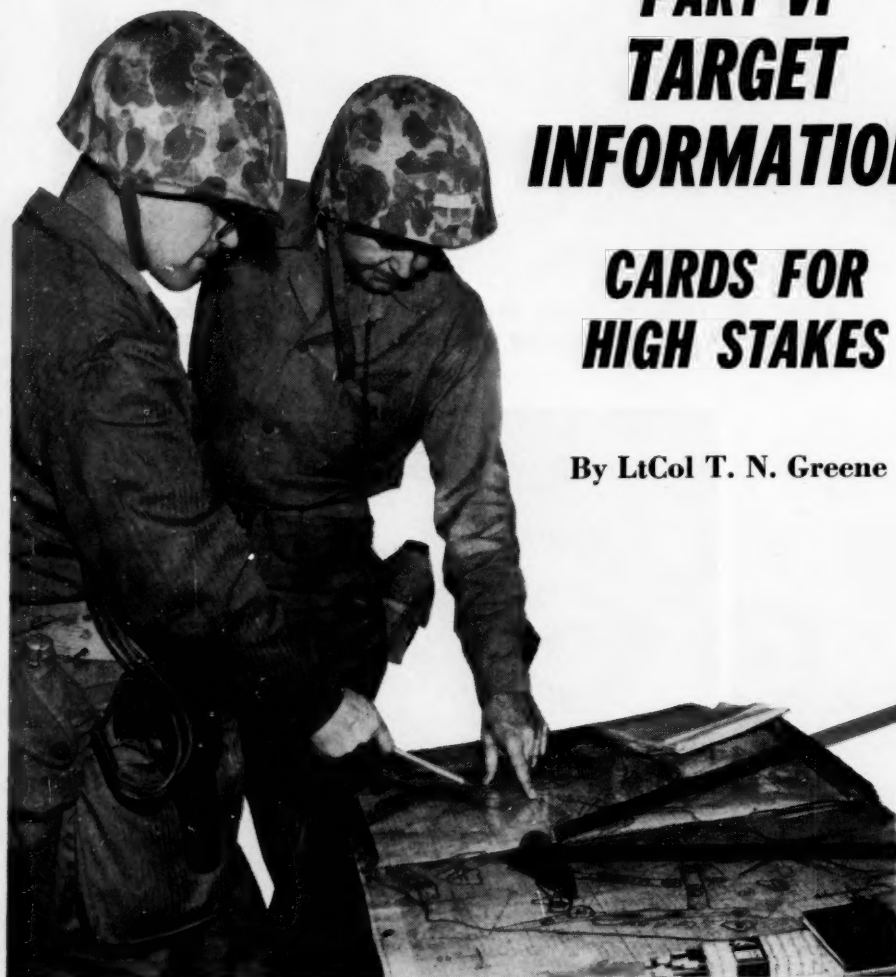


SUPPORT by FIRE

PART VI TARGET INFORMATION:

CARDS FOR HIGH STAKES

By LtCol T. N. Greene



THE ATOMIC BATTLE OF TOMORROW may literally be won by the turn of a card—a target card which can tell the commander where to find the enemy atomic launchers and what to do about them. The battle can be more easily lost.

Yet vital as are the stakes, in an era when the invasion by specialists of command prerogatives is widely deplored, the very hub of all fire support coordination—target information—is greatly neglected. We just can't let this happen. Targets are keys to choice of courses of ac-

tion, to allocation of fire support priorities, to coordination of maneuver and fires and, certainly, to the bread-and-butter functioning of all supporting arms.

Now this is not another diatribe belaboring the truism that we must have more and better intelligence and target acquisition. Target information is basically the processing for use by commanders and the supporting arms of the targets we have already acquired. For example, on one RLT maneuver at Camp Pendleton the troops were busily pin-

ning Aggressor against the reservation boundary. The commander stood poised, a paper atomic weapon in either hand, anxious to find the Aggressor CP, end the "war," and declare liberty for all hands. A mortar FO found the CP, fired six rounds at it—and 36 hours passed before this lost target was again found.

In one artillery regiment alone there are 54 officers assigned as FOs, NGF spotters, or air observers—all with the primary duty of finding and adjusting fire on enemy targets. For each important target they discover, proper target information will perform these functions:

- 1) Get a proper detailed description.
- 2) Recommend an effective method of attack.
- 3) Record the target and pass it to other intelligence agencies, including all supporting arms.
- 4) Find out the effect of the attack on the target.
- 5) Recommend further attacks as required.
- 6) Analyze effectiveness of attack methods and recommend changes to tactics and techniques as required.

It is clear that these functions must be performed in an FSCC in order to be astride the supporting arms communications channels, both to receive reports and to further question observers. The task is an intelligence task, but the communications, the analysis of attack methods, and the need to operate in the FSCC strongly recommend a sound supporting arms background. However, the need to trade targets with S2/G2 is so urgent as to require the very closest of liaison and training. If any physical separation is required, it must be alleviated by a hot line and said line kept truly hot.

At present, the T/O provides one lieutenant, Target Information Officer, for a division from the FSCC section of the artillery regiment. None is provided for RLT or BLT FSCC. Previous concepts that a TIO does nothing except shuffle target cards, required no greater rank, skill or numbers.

Before discussing the adequacy of the present organization, let us first examine what stakes, if any, commanders have in the minutiae of

target information. The simple fact is that this is an area laden with tactical booby traps for the unknowing. First of all, the basis for all supporting arms planning in an amphibious operation is the publishing of a consolidated target list by the amphibious task force commander. This sounds innocent enough. However, the target list is actually so constructed as to indicate the time, method and priority of attack of targets. The first targeting conference at which the format of the list is determined is not a conference of intelligence personnel. It is a strategic and tactical process in which are determined such questions as whether or not to conduct pre-D-day operations, deceptive measures, and the overall and detailed approaches to preparation of the objective area and landing beaches. As the operation proceeds, target bulletins publish results of target attacks and list new-found targets. A continuous, detailed, and knowledgeable review by landing force staffs is required to insure that troop requirements are being met.

A further aspect of our amphibious

target list doctrine is a system of priorities which consider first, threats to the task force, second, threats to the ship-to-shore movement, and third, threats to operations ashore. Until H-hour on D-day this is a reasonable system, although some question might be raised concerning the relative priorities of a small anti-boat gun and a big inland atomic missile. It is clear that beginning at H-hour, a system of priorities and an arrangement of the target list more suited to troop requirements is essential. For example, a rather high priority is indicated for all atomic delivery means. It appears that the Marine Corps could adopt with profit the system of Target Summaries described in detail in *FM 420—Field Artillery Tactics and Technique*. This prescribes periodic issue of Hostile Artillery Lists, Hostile Mortar Lists, and General Target Lists limited to important, semi-permanent targets. For the use of the air-ground team a Hostile Flak (Anti-aircraft) List should also be passed to both air and ground components. The system of priorities is simple,



being based on capabilities of targets to interfere with the plan of action in the order: I—"able to prevent," II—"immediate serious interference," III—"ultimate serious interference," and IV—"limited interference."

This seems to be a system which will truly allow commanders and their operations officers to give sound guidance on target priority, the basis of fire support allocation and coordination. The next step is to insure that the commander's will is carried out. The target he wants destroyed because it can prevent execution of his plan of action must really be destroyed. Let's say the technicians of the FSCC choose the right arm and a good method of attack. As described in previous articles, the ability of conventional supporting arms to completely destroy is limited; even atomic weapons have distinct limits in practical use. We must be sure. Unfortunately, observers who direct strikes tend to send back good reports of their own performance. Pilots, ships and artillery batteries seldom underestimate results of their own attacks. Target information must find out the "true facts" by interrogation, aer-



... 36 hours passed before the lost target was found.

ial surveillance or aerial photography. We dare not guess or accept fragmentary reports.

With all respect to the framers of current T/O, the target information function is not one to be turned over to one lieutenant on behalf of a division commander. Nor can it be neglected by RLT and BLT commanders. Part of the job—filling and filing cards, marking the target map, making lists—can be well filled by a young officer or NCO, if he well understands his responsibility. The main part of the function is making sure that targets are received, processed, assigned priorities, properly attacked, results checked, and the attack pressed home as necessary. Where can we get more horsepower without exceeding manning levels?

The first place to look is in the artillery organization. By T/O the supporting artillery is charged with manning most of the FSCC. The Regimental and Battalion commanders have S2 sections; the batteries can provide an NCO from the Fire Direction section. These personnel meet the requirements: a background in both intelligence and supporting arms. The question is whether artillery can get along without intelligence sections. Artillery has specialized requirements for intelligence of roads, position areas and localized enemy activity. These are minor in nature. The information can be gotten from the infantry intelligence section in our current integrated infantry-artillery CPs. However, artillery intelligence has certain special functions of concern to the supported infantry which cannot be neglected. These are counterbattery, countermortar and using those 54 observers in a coordinated observation net. Their counterflak role is of concern to air.

Counterbattery is hard work and must be done at division level. It involves terrain studies, specific knowledge of enemy artillery capabilities, tactics and techniques, maintenance of a complex plotting board system, and the prying loose of shell reports from all echelons of the division. Observation must be maneuvered to confirm what shell reports indicate. At the RLT level, counterbattery information must be collected and forwarded and the countermortar effort executed. This is

| GRID SQUARE 2815 | | | | |
|------------------|--------|----------------------|--|---|
| ITEM | TIME | COORD | STATEMENT | NOTES |
| 1. | 092235 | 28381539 | MG Fired on Recon Ptl from ACo | Have next Ptl check this area |
| 2. | 092318 | ? | Veh noise-Tk?-Heard direct N. of ACo OP#2 28321507 | Ask Air OPs to look |
| 3. | 100600 | 28021523 to 28141527 | Special OB report on Wpns & Fortifications | Div OB wants more dope on wpns strength |
| | | 28141527 to 28221529 | Trenches & Bunkers | |
| | | 28611545 to 28781551 | Wire | |
| | | 28811551 to 29001559 | Platoon on line—has 2 MGs | |
| 4. | 102335 | 28391530 to 28691541 | Extensive trenches and firing Pns | Same MG's as Yesterday? Check this! |
| 5. | 110600 | 28431588 | B Co Ptl Rpts wire and AP Mines Very Heavy | New since 081800 |
| 6. | 110630 | 28381557 | Res Unit (Co?) in Gen'l Area | (From Div PIR) |
| | | | Med Tank spotted by L plane | How many more??? |

Coordinates register, Part 1

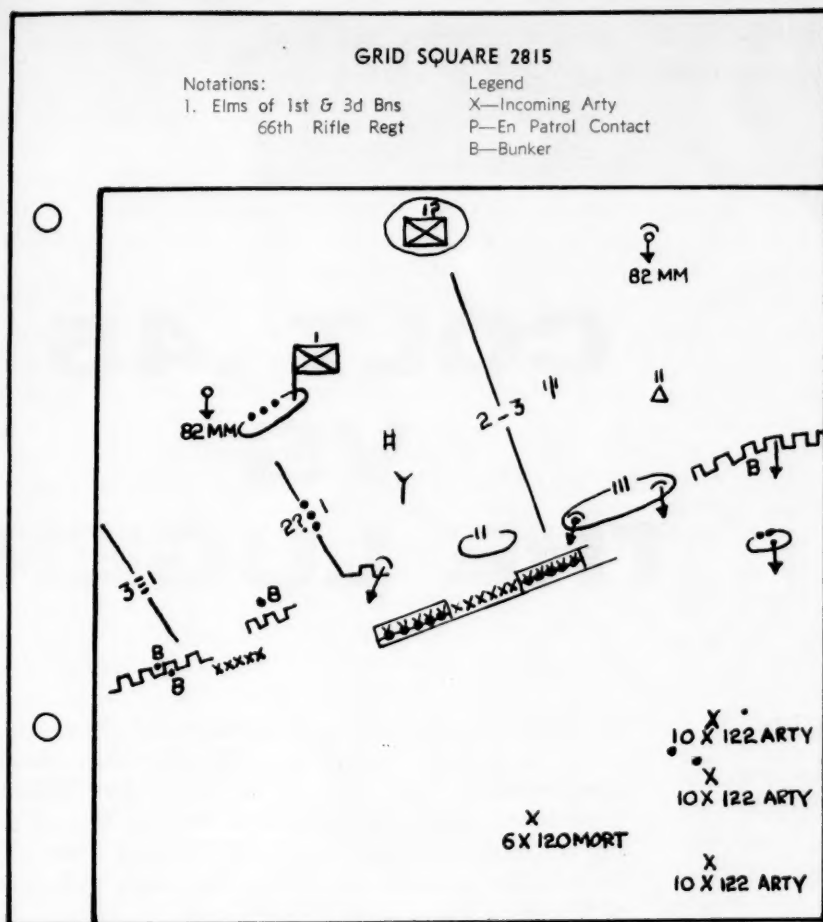
similar to the counterbattery effort, aided by countermortar radars which take great skill to emplace, and complicated by the lack of flash or bang from mortars.

In Army doctrine, counterbattery is handled by division artillery, aided by corps artillery when present. The regiment, before being replaced by the battle group, had a specific countermortar section and counterfire means. In the Marine Corps, we are much shorter on artillery. In counterbattery/countermortar, as in other fire support, we may well have to call on our coordinated supporting arms team of artillery, heavily reinforced by naval gunfire and close air support. It seems the counterbattery-countermortar function must be performed in or very close to the FSCC and in very close liaison with both the Target Information section and the infantry intelligence section.

These circumstances allow shaping an integrated intelligence system to emphasize the key target cards the commander must hold. Particular emphasis can be on enemy atomic delivery means, the tar-

gets voted most likely to "prevent execution of the plan of action."

At division level, there must be a full capability at the primary CP, with as great a duplicate capability as possible at the secondary. The capability required involves four intelligence sections, closely linked by liaison, hot lines, physical proximity and, if possible, teletypes. These are the artillery counterbattery section, G2, target information section and air intelligence section. TIO must be in the FSCC, and the Air S2 must take station in the adjacent DASC. It is suggested that the artillery counterbattery section be integrated in the G2 tent. The artillery regiment S2 supervises both the CBIO and the TIO. The MASS S2 and TIO collate information to prepare the flak list, the CBIO handles hostile battery lists and consolidates hostile mortar lists received from RLT. G2 and TIO consolidate general target lists. All lists are approved by the Fire Support Coordinator as immediate supervisor of the TIO. Responsibility for all intelligence and promulgation of lists must rest with G2. However, note



Coordinates Register, Part II

that target priorities are assigned by the commander (G3 staff cognizance).

At RLT level, a more simple system is possible. Here the infantry S2 and close support artillery battalion S2 can join forces in one corner of the operations center, apportion the work, and closely coordinate. The artillery S2 normally handles counterbattery, countermortar, observation and target information. If a joint operations center is not used, the artillery S2 takes station in the FSCC, next to a hot line. Countermortar lists should be published. The RLT records and passes down and up appropriate counterbattery and general target information, with emphasis on counterflak for the assistance of the ALO in planning air strikes.

At BLT level a joint operations center would normally be employed. The infantry S2 remains responsible for all intelligence functions. If possible, an enlisted assistant joins him from the close support artillery battery.

At all echelons, target information is kept in both graphic and

written form for all supporting arms representatives. Intelligence of particular interest to artillery, air or special weapons planning goes directly from TIO to TIO by FSCC communications. Naval gunfire information is similarly passed. However, naval gunfire representatives at each echelon must directly inform any ships in support of that unit. Trading information with the infantry S2 must be emphasized. Experience shows that supporting arms and infantry each acquire just about one-half of all targets.

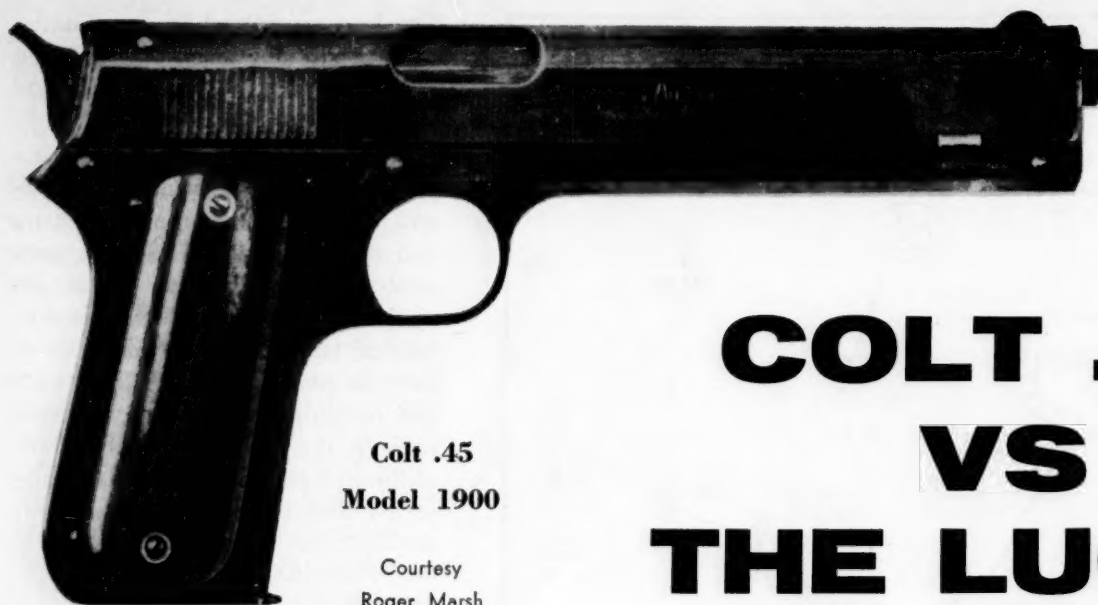
Voluminous records need not be kept. At BLT, target and supporting arms situation maps can be combined. Target cards are not needed; a simple coordinates register as described in FM 30-7 is used. Scale of such registers may be prescribed by higher authority to aid passing data by overlay. At RLT a target map combined with countermortar board is recommended, supplemented by a coordinates register and hostile battery, mortar, flak and general target lists. At division or brigade level we need a full set of target files, including duplicate sets of cards in-

dexed by target and by coordinates; also separate target information maps, counterbattery board and atomic target folders.

The functioning of any system involving integrated command posts and staffs, various supporting arms and execution under extreme pressure must be complex. Thus, it's vital that the FSCC, including its hub of target information, activate early in planning any FEX or LEX and be properly exercised. Particularly in the afloat phase of an amphibious operation special arrangements must be made with ship communications to receive target bulletins changing the target list. Files must be kept fully current and carefully analyzed from the viewpoint of the commander.

Difficult as the job may be, we must make the effort to capitalize on what target information we receive. It is embarrassing to lose an enemy CP for a day and a half; it could be fatal to lose track of an enemy missile launcher for an hour and a half. Run-of-the-mill organization, doctrine and procedures are not good enough for the intelligence we get now; they could well collapse if we succeed in dramatically improving target acquisition. Surely, improvement in processing and dissemination will lead to better target acquisition by better directing the eyes and ears of the division. However, there is a strong ray of hope and a promise of substantial reward for improvement in the target information field. We can soon hope to have in the FMF much better teletypes, which may some day be aided by automatic data processing and dissemination equipments along the lines of the Air Force SAGE system for air defense.

This we know for sure. Of all the complexities, imponderables and nuances characteristic of the intelligence field, the brief, simple, stylized formats of target lists, target bulletins and target summaries best lend themselves to rapid transmission. We can make a start on the problem by applying command interest, increased staff horsepower and frequent, realistic training tests to target information. With luck, we may turn up the card that will be the commander's ace in the hole. **USMC**



Colt .45
Model 1900

Courtesy
Roger Marsh

COLT .45 VS THE LUGER

By ACpl D. S. Faulkner, USMCR

THE MOST VERSATILE OF ALL THE HANDGUNS employed in combat, if we were to select the top two, would undoubtedly be the 9mm German Luger and the Colt .45. The topic of discussion, among various groups, finds that gun enthusiasts would like to see these two firearms matched in competition. Fact is, there *was* such a trial.

From 1900 to 1911 the US government held the automatic pistol trials. It was at these trials that the Colt and Luger, along with five other automatics, first met. They participated in competition until 1911, when the Colt was officially adopted as the service weapon of the armed forces. Before the conclusion of the trials though, the German government had requested that a Luger pistol of 9mm be submitted for test by their army.

Both weapons had been invented in the United States, both by Americans, and both around 1893. Since these trials were the first to be faced by the automatic pistols (so called, because of automatic injection and ejection), they became a proving ground, setting the stage for the most severe conditions the pistols could be subjected to, other than actual combat use.

The German Luger

The Luger pistol was invented in 1893, by an American named Hugo Borchardt. After the Civil War, he was employed by many of the New England gun shops. At Winchester he made several revolvers that competed with Colt. The highest position he held in the US was with Sharps Rifle Co where he helped develop the famous Sharps-Borchardt rifle.

During the 1880s and 90s the US Army held its rifle trials in which Lee Arms Company participated with Hugo Borchardt as its representative. Also at these trials was an Austrian named Georg Luger. The rifle which Luger submitted was described as, "a rotating bolt, central-under the receiver magazine type rifle."

Both the Lee and Luger rifles were turned down by

the Army, but the Navy, not satisfied with the outcome of the Army tests, conducted trials of its own. At the completion of these tests, the Navy ordered 1,000 of Lee's rifles. Borchardt and Luger became friends during the trials and since Borchardt's job was over when he sold the Lee rifle, he decided to return with Luger to Europe.

Borchardt showed Luger an automatic pistol that he had been working on. It was a .30cal, recoil operated weapon, carrying the magazine in the grip. The pair went to Berlin, where they went to work for Ludwig Loewe Company. The pistol Borchardt had invented was put into production immediately, and a patent applied for in the United States. This patent was held up for almost three years after it went into production by Loewe.

Around 1900 the firm of Ludwig Loewe underwent a cartel reorganization which became Deutsche-Waffen and Munitions Fabriken of Berlin. DWM requested that Luger modify the Borchardt pistol. He shifted the weight more to the rear, shortened the barrel, and inclined the grip. The new weapon was a smashing success, becoming popular overnight. Luger thought that the pistol trials, just starting in the US, would be a good chance to prove his new design.

In 1905, the US Government decided that a caliber of .45 would be the minimum, because of the complaints of men fighting in the Philippines who were using the standard .38 service revolver. Luger converted his .30cal weapon to .45 by enlarging the barrel and projectile. It is believed that he made three of these weapons, but there is only one in known existence.

The German government, in 1908, accepted the 9mm version of Luger's pistol known as the Pistol M1908. This then, after the adoption of the Colt in 1911, was the beginning of the two archrivals.

The Colt

About 1893, John Browning, while working with the

Colt's Patent Firearms Manufacturing Company of Hartford, Conn., designed the famous Colt .45. John was the son of a Utah gunsmith, having shown signs of inventiveness since childhood. He invented his first gun at the age of 13, making it from scraps of iron in his father's workshop.

In 1879, he secured his first patent for a breech loading, single-shot rifle. John and his brother Matthew together produced about 600 of the rifles, one of which came to the attention of Winchester Repeating Arms Company. Officials of the company were so impressed with the arm, they paid the brothers large royalties to produce the gun, which is still in production by Winchester.

Browning's inventions never lacked a market. In fact, most of his designs were bought before leaving the workbench. He never invented a weapon that proved to be a failure, or has any of his firearms ever been discontinued.

The pistol was not the only contribution John Browning made, however. His automatic rifle (known as the BAR) and his machine gun rank highly in our arsenal of weapons. He is considered one of the greatest inventors of automatic weapons of our time. He was made a Chevalier of the Order of Leopold and decorated by King Albert on the occasion of the millionth automatic pistol produced in Liege, Belgium, where he spent his final days.

The Trials

The most interesting of the tests, (the order of 1905 required that all weapons be of not less than .45 caliber) was held in the Springfield Armory, 6 December 1906. The seven weapons entered varied only slightly in weight (2 lbs 2½ oz to 2 lbs 11½ oz) and included the Colt, Luger, Bergmann, Savage, Knoble (both single and double action) and the White-Merrill. Some of the tests the automatics were subjected to included:

Rust—The pistols, with their barrels coked, were boiled in soda to insure the removal of all oil and grease, dipped in a solution of sal-ammoniac for five minutes, and hung up indoors to rust for a period of 22 hours. The pistols were then fired to observe operation.

Dust—Barrels coked, the pistols were subjected to a blast of fine sand for a short period. The weapons could then be jarred, blown upon, or wiped off with the bare hand only. They were then fired for test.

Decreased Charges—Twelve rounds were to be fired, reducing to 25 percent for four rounds, 15 percent for four rounds, and to 10 percent of the original service pressure for the last four rounds.

Increased Charges—Five rounds fired at 25 percent more service pressure.

Pierced Primers—Five rounds to be fired with the primers thinned to insure piercing.

Also the tests included the time required to disassemble and assemble weapons, tools required, safety features and general design and balance of the weapons.

These tests concluded that the automatic was better adapted for service use than the revolver. The government was not satisfied with the outcome of these tests, so field tests were ordered. Only two of the original

seven pistols were submitted for the finals, those being the Colt and the Savage, with the Colt eventually being recommended. This was where the Luger dropped out of the running as a US firearm.

Since these tests, the Colt and Luger have come a long way. They proved their superiority in two world wars, earning respect in every corner of the globe. The weapons themselves have changed only slightly since their adoption—most in the Colt .45. It underwent five minor changes: the tang of the grip safety was extended to better protect the hand. The face of the trigger was cut back and knurled. The mainspring housing was raised in the form of a curve to fit the palm of the hand. The top of the front sight was widened. A clearance cut was made on the receiver for the trigger finger.

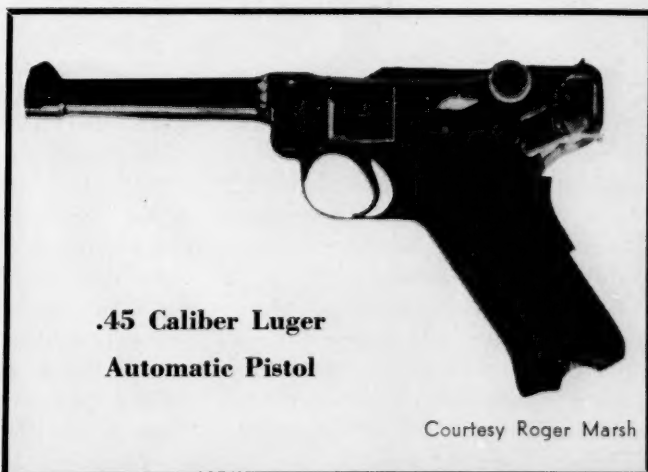
Although these are minor changes they add greatly to the convenience and comfort of shooting the weapon. The Luger also was modified slightly by having an adapter, in the form of two grooves cut in the bottom part of the grip, so a shoulder stock could be attached. Also the barrel was shortened from four to 3⅝ inches on the Model 1923.

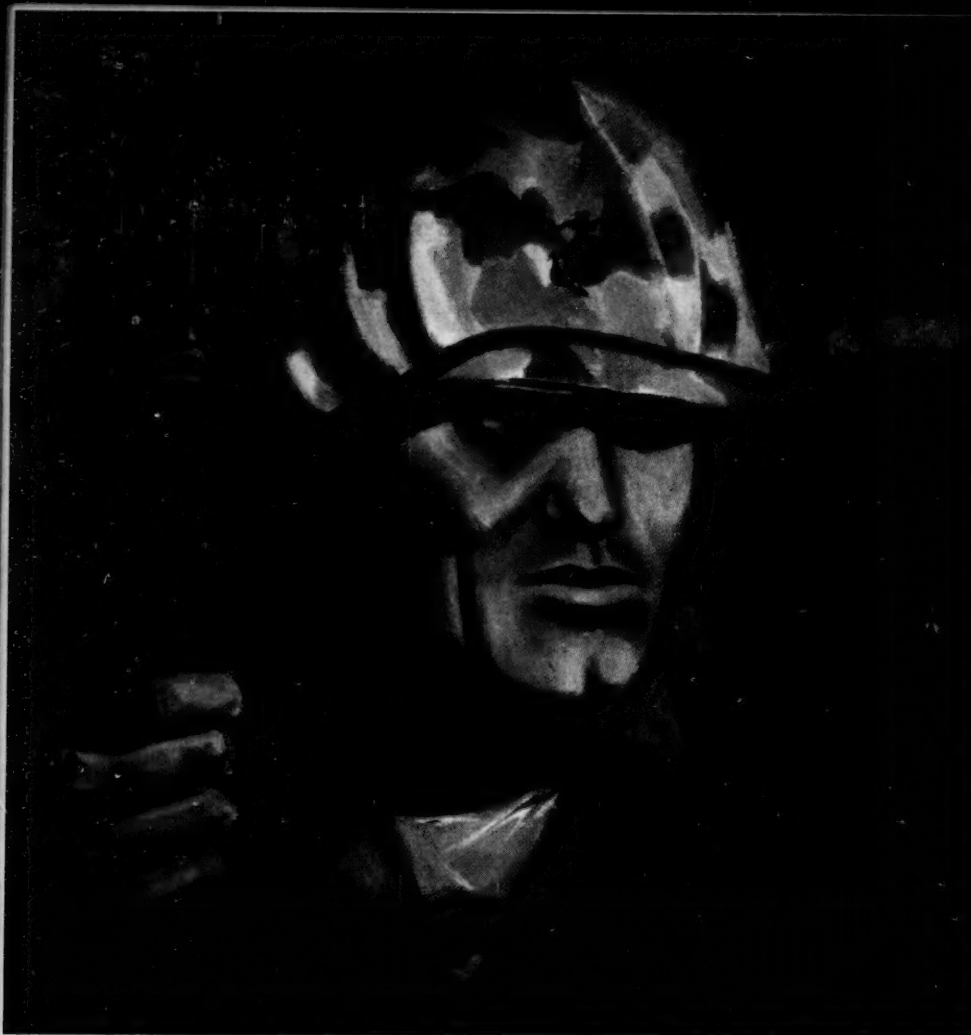
To say that one weapon is better than the other would only be a matter of opinion. The striking power and accuracy are about the same in both weapons. The one major difference in the weapons is the twist of the rifling. The Colt has a left hand twist, while the Luger has a right hand twist. This causes the Luger to twist from the hand of a right hand shooter when fired. The Colt has a grip safety that prevents the piece from being accidentally discharged when it is not in the shooter's grip. The Luger, on the other hand, has the extractor raised; the stamped "Geladen" or "Loaded," is clearly visible when a cartridge is seated in the chamber.

There are of course, versions of the Luger which have the same safety features as the Colt. The Swiss Luger, for example, has a grip safety. The Model 1902 Luger has a grip cartridge counter strip. The Luger has many various barrel lengths ranging from 3⅝ to eight inches, the latter generally used on the Luger carbine which consists of a shoulder stock attachment, and a 32-shot drum magazine.

So these are the weapons, the men who made them famous and the events which led to their popularity. To say that one weapon is better than another would only be a matter of opinion. Both will be known and feared for a long time to come.

USMC





EMPLOYMENT of RECON

By LtCol H. J. Woessner II

✦ **FOCUS YOUR ATTENTION ON THE** Division Reconnaissance Battalion. By reviewing a possible concept of operations you can learn something of its capabilities and limitations; its organization, equipment and training requirements.

According to its table of organization, the battalion's primary job is "to conduct ground reconnaissance and observation in support of a Marine division or its elements." Extensive use of helicopters from the

Helicopter Reconnaissance Squadron (12 HRS/HUS and 12 HOK) provides mobility for reconnaissance activity in widely dispersed formations. Close team relationship of the reconnaissance battalion and reconnaissance squadron is essential for many missions.

One might be to relieve Force Recon personnel early on D-day and establish OPs prior to H-hour in areas from 10,000 to 40,000 yards inland. OPs and reliefs must be landed by

helicopter. As with other reconnaissance patrols in enemy territory, these teams will be landed at night to take advantage of the concealment. Coordinated naval gunfire and air attack will provide a covering noise. If it is known that helicopters have been detected, further diversion may be achieved by landing at additional sites either before or after landing the teams.

One of the principal limitations at present in this type of operation is the difficulty of navigation at night. But flights can be made under conditions of one quarter moonlight by studying terrain models and maps, by selecting routes to take advantage of easily identifiable terrain features such as roads and streams, by rehearsal and, wherever possible, by previous daylight reconnaissance.

In this manner, 4-man reconnaissance teams with AN/GRC-9 radios can be landed during darkness at about H-4. They move to positions to contact Force Recon elements and establish OPs.

Another example: Recon attached to a mechanized force must keep well ahead of the column. To do this a section of HRS/HUS type helicopters will be assigned to move teams to successive observation posts. A main requirement in this operation must be a high state of pilot proficiency in low-level contour flying to take advantage of cover and concealment.

Any available combination of OEs or high performance aircraft and HOKs may be employed as points for the mechanized column. Recon personnel trained in terrain appreciation would be aboard. However, an enemy antiaircraft capability would veto this employment.

In order to accomplish the screening and counter-reconnaissance mission on an exposed flank, a combination of foot, motorized and helicopter-delivered and extracted patrols and OPs will be used. AN/TPS-21 surveillance radars (of the 12 authorized) will be set up to provide a 24-hour watch covering critical avenues of approach on the flank.

Analysis of the missions the battalion might be required to perform provides the key to its task organization, organization for embarkation, equipment and training.

When considering task organization, one question may come up: "Why not attach a company of the recon battalion to each infantry regiment in order to get the information on the enemy to where it's needed, and solve the problems of coordination, fire and maneuver, and communications?" This solution undoubtedly would greatly assist the regiments, but it would have some disadvantages:

1) It would reduce the range or depth of ground observation of the enemy by recon OPs and patrols. There is a natural tendency for the infantry commander to use his reconnaissance agency to observe the enemy on his immediate front. He is primarily interested in the force in contact. At each echelon, reconnaissance should influence the *plan* for employment of fire and maneuver. At the regimental level, this includes supporting air, naval gunfire, artillery and the maneuver of battalions in contact or in reserve. The infantry regiment should develop a reconnaissance capability using its organic troops up to about 10,000 yards. The reconnaissance battalion should operate from about 10,000 to 40,000 yards forward to gain information which will influence the employment of the fire support and reserves of the division commander.

2) Reconnaissance troops might, as in the past, be employed between two forces in contact as additional infantrymen. This is the basis for a certain amount of misunderstanding. And there is no intention to derogate the role of the infantrymen nor to exalt the role of the reconnaissance man. It is a simple matter of training and availability of numbers. The strength of three reconnaissance companies represents only about 31½ per cent of the strength of the 36 infantry companies. It takes considerable time to train a good reconnaissance man. The conclusions should be obvious.

3) Centrally controlled operations of the reconnaissance battalion—reconnaissance squadron in employment of helicopters for movement of patrols and OPs, would be impractical or extremely difficult. Centralized control of the use of helicopters for this purpose provides the greatest amount of flexibility. A

higher degree of efficiency of maintenance and availability of aircraft is insured.

4) The experience and training of the recon battalion staff in the areas of command, control, employment, support and communications would be wasted.

Having discussed this general question of attachment of all the companies, let us consider whether or not the battalion should have any attachments or detachments.

If any unit operates at a distance

The mission is extremely important . . . so is every man called upon to perform it.

from the Recon Bn, it should have a recon detachment.

On the other hand, a screening and counter-reconnaissance mission presents a possible need for attachments to the battalion. The enemy may well have a mechanized reconnaissance capability, backed up by a tank-infantry capability. In order to reduce his mechanized mobility and cause him the maximum damage and delay, use of supporting arms and mines is essential. This also enables the reconnaissance battalion to make use of its motorized patrol capability (40 jeeps and 25 radio vehicles) with some degree of security.

The reconnaissance battalion is

authorized an air liaison officer and two forward air controllers. In its training program, instruction for all hands includes procedures for calling and adjusting artillery fire, and laying and removing mines. However, in order to provide more reliable communications for control of artillery and naval gunfire and insure availability of support in this case, an artillery liaison officer and two forward observer teams are attached. A pioneer detachment assists in handling mines.

From this discussion of supporting arms a question may have occurred about the concept to be employed by the battalion: "Overt versus covert operations?" Naturally, any operations into or behind the enemy lines or areas must be planned as covert operations. These may involve small OPs or foot patrols, moved during daylight by helicopter or wheeled vehicles to a starting point in an area screened by a terrain mask from enemy observation. Or they may be moved by helicopter under cover of darkness for the pre-H-hour landing. However, with daylight platoon-sized patrols, or recon company or battalion operations, we reach a point where it is no longer possible to conduct completely covert operations. We can expect that the enemy will observe and react. It is not within the battalion's capability to conduct a reconnaissance in force or by fire. Neither is it desirable to close with a sizable enemy force. However it may be that the ability to maneuver will depend upon the availability of fire support or a means such as mines to

"4-man teams with radios will be landed"



reduce the enemy maneuver capability.

Equally as important, if not more so, the battalion should acquire targets at long range. Before they deploy they are most vulnerable. It is important to report these targets, but even more important to hit them before they disappear. The availability of artillery, air support and naval gunfire, where possible, is considered a natural extension to the capability of the battalion as a means of target acquisition.

Turning now to the matter of organization for embarkation, let us study the factors involved. The first concerns need for pre-D-day landings. Let's assume the Force Recon Company won't need help. Therefore, no personnel will embark on submarines or advance force shipping. The battalion's organic amphibious equipment (eight 4-man and five 9-man inflatable boats, and 15 sets of underwater breathing apparatus) can be embarked with the rest of the equipment.

It is highly desirable that the recon battalion and recon squadron embark together in two carriers, with the commanders on one and the executive officers on the other. This will provide command and control and joint planning up to the last minute. All hands will be able to conduct a strenuous physical fitness program aboard the carriers. Cargo and communication vehicles will be embarked in LSD or APA, with assigned motor transport, supply and communication personnel.

If it is necessary to land personnel over the assault beaches, they will be moved via landing platform to an LSD or APA, and landed after the assault elements have moved inland far enough to permit maneuver out to the flank.

After determination of the factors



"... the Battalion and the Squadron embark in carriers"

involved in task organization and organization for embarkation, let us examine any special equipment problems. The primary weapon in the recon company is the M3A1 sub-machine gun. This is entirely unsatisfactory in a screening, counter-reconnaissance mission because of its lack of range and accuracy. It must be replaced by the M-1 rifle. In addition, the battalion has no antitank capability except the rifle grenade. Therefore, two 3.5-inch rocket launchers are carried in the recon platoon and four in the H&S company. This doesn't mean that the platoon will be sent out to stop a heavy tank attack, but it will have a means of self defense.

Now that we know what the battalion's mission involves, how it may be organized for combat and embarkation, and what special equipment problems it may have, we are prepared to discuss training objectives. Ideally, each man should be physically and mentally able to overcome any weather or terrain obstacle, precede the infantrymen, and

obtain and return information in time to influence the employment of troops and fire support. He must avoid any enemy reconnaissance units which have a mechanized capability. He must be able to operate with small, isolated groups. Basically, of course, he must be a well qualified infantryman with special skills.

Most important is the development of the small unit leader. Confidence courses such as Ranger School, Jungle Warfare School, Mountain Leadership, etc., which require a high degree of physical fitness and stamina are excellent opportunities for leadership testing and development. The battalion requires a high standard of physical fitness and schedules battalion-sized exercise in the mountains, in the desert and wherever it can move to find difficult terrain. As frequently as possible, exercises must be scheduled with the helicopter reconnaissance squadron so that each man is familiar with their operation. Submarines and rubber boats should hold no mysteries, either. As previously mentioned, control of artillery fires and mine warfare must be developed as individual skills.

Still on an individual basis, the training of the communicator is vital to the success of the battalion. Unless the information obtained is rapidly delivered to the division commander, it may be of no value. In view of the ranges involved, CW is the usual means, and therefore the CW operator is extremely im-



LtCol Woessner was CO, 1stReconBn, 1stMarDiv when he wrote this article to examine problems which recon units will come up against, and to follow up two previous GAZETTE articles by other authors on intelligence gathering: "Minimizing Uncertainty ... the Three-Headed Spook" (Jun '58); "Force Recon—by Land, Sea and Air" (Feb '59). After graduating from Senior School, MCS, Quantico, he was assigned as BnO, US Naval Academy and then to the 1st Division.



"... if we deploy our helicopters we will outmaneuver him"

portant. Each officer and staff NCO must have a working knowledge of the electronics equipment, and receive special training.

Instruction in individual fire discipline in covert operations is another important subject. There will undoubtedly be times when one or more enemy will come under observation for relatively easy kills; but it may be necessary to hold fire to avoid disclosure. Compromise of the unit may bring an attack by an overwhelming enemy force, result in close combat which should be avoided, or reveal the location of an OP which is in position to report vital information or observe an extremely profitable target for supporting arms.

On the unit level, it is important to train in the study of the terrain and our own and enemy capabilities to exploit it for reconnaissance purposes. Coordination and control of helicopter, motorized and foot patrols, and visual and electronic surveillance, is the goal. This coordination is required not only within battalion units, but with fire support and other infantry units of the division. This is particularly important and difficult when operating forward of the infantry regiments in a movement to contact situation. In this case, coordinating measures such as "No Fire Lines" and "Reconnaissance and Security Lines" have special significance. One way to achieve the ultimate in coordination and provide maximum fire support where

it is needed—at the point of contact between the enemy and the recon battalion—is described as follows:

A recon company operates forward of each infantry regiment. The artillery FO from the regiment's direct support artillery battalion accompanies the appropriate recon company. As each company makes contact, artillery supports the action in a manner similar to the support of a general or combat outpost. In this concept, artillery units would displace forward of the infantry units, if necessary to support the recon company operating at great depth.

Let's say that the enemy can conduct mechanized reconnaissance. One of the important unit training missions is to teach all hands how to cope with enemy counter-reconnaissance elements. We must either reduce his mobility or increase ours. If we can employ our helicopters, we can outmaneuver him and keep him under observation. If the mobility of our helicopters is reduced by bad weather or heavy antiaircraft fire, we must rely on supporting arms and mines to delay him.

This raises the question of the recon battalion's need for a tracked vehicle. There are undoubtedly many proponents of the idea. For those who think so, the Army's new M56, which is helicopter-transportable with the HR2S and can carry up to 11 men, may be the answer. Many want to increase the antitank capability beyond what has been dis-

cussed above. Suggested are the 106 mm recoilless rifle on a jeep (BAT) or Mule. Others think in terms of a 106 on a vehicle such as the M56.

Finally, the discussion evolves to the question of whether or not the recon battalion should have an organic capability to conduct reconnaissance in force, or by fire, such as the US Army or our potential enemy has. The question is certainly interesting but at present is only academic. It is too far from reality to suggest such a capability in the near future. It is a matter for resolution. However, in the near future any reconnaissance in force must be on a task organization basis. In view of present organization and equipment, the infantry battalion might be better task organized to perform such a mission.

Amphibious reconnaissance has been notably slighted so far in this discussion of training objectives. It is a unit capability which must be developed, since it might be necessary for recon battalion to augment Force Recon or act in their absence for a pre-D-day or post-D-day mission. However, since the primary mission of the battalion is considered to be ground reconnaissance, amphibious reconnaissance is secondary.

This has been a discussion of how the Division Reconnaissance Battalion might fit into an amphibious operation, and some of the training objectives required to make it combat ready. As you can see, the problems are not new except as they apply to the organization which is new and to the personnel who are constantly new. But the mission is extremely important. So is every man who is called on to perform it. The 4-man team on a remote OP may be responsible for spotting and reporting an enemy helicopter force embarking or landing, or an enemy regiment in bivouac, or an enemy general at his CP or driving along the road. The same team may also bring supporting fire to bear to destroy such targets before they can get within range of our infantrymen.

If combat should provide the opportunity, examples such as these will prove the value of the "eyes and ears" of the division commander—his Reconnaissance Battalion.

USMC



STRATEGY IN THE MISSILE AGE

BERNARD BRODIE. 423 pages. Princeton University Press. \$6.50

THE QUESTION OF NATIONAL DEFENSE

OSKAR MORGENSTERN. 306 pages. Random House \$3.95

The *Washington Merry-Go-Round* says that SAC Commander, Gen Power, in his proscribed book *Design for Survival*, recommends "an aggressive program by the Government . . . to combat misconceptions and lack of understanding among the public with respect to the threat which we are facing and the action required to meet that threat."

Even though Gen Power's attempt to participate directly has been frustrated by the Defense Department, the Government is actually underwriting, in the publications of the Air Force-sponsored RAND (Research and Development) Corporation, just such an educational program as Gen Power recommends. Bernard Brodie's well written, comprehensive and lucid *Strategy in the Nuclear Age* is the latest in this series.

Starting from the National Planning Association—Committee for Economic Development—Rockefeller Brothers Fund Inc. position that the US could raise its military budget from the present 10 per cent to perhaps 13 or 14 per cent of a growing Gross National Product without adversely affecting the economy, Dr. Brodie avoids making any hard choices. More for everybody. More for strategic bombardment. More for the air, ground and sea war that, to the confusion of our thinking rather than to its clarification, are now categorized amorphously as limited war. More for civil defense. Even Continental Air Defense would get a boost if technology held out any hope at all of achieving a defense that would be effective against missiles. But technology doesn't

have the answer and from this Brodie reaches the conclusion which is his principal contribution to public understanding. What is the point of a deterrent force that is vulnerable to enemy attack? It does not deter effectively and it creates instability by inviting its own destruction. "It tempts him (the enemy) to an aggression he might not otherwise contemplate."

At the outset Brodie reviews military theory from Clausewitz to Douhet to good effect, giving the "immutable" principles of war some deserved knocks and denigrating army and naval thinking in relation to the strategic problems of the present and future by associating armies with the purposeless carnage on the Western Front in WWI and navies with Adm Halsey's egregious decision at Leyte Gulf. "It was their horizons rather than their skills which proved so disastrously limited." Brodie thinks they are burdened with a heritage of thought the relevance of which, in the present circumstances, is qualified.

Douhet, on the other hand, though his every salient point was proved wrong by the experience of WWII, created a framework of strategic thought that has become peculiarly pertinent to total war in the nuclear age. The advent of the thermonuclear bomb has more than offset his exaggeration of bomb damage and confirmed his neglect of target selection. His emphasis upon the offensive, in what was once aerial warfare, has now been validated not by the thermonuclear bomb alone but also by the ballistic missile, against which there is as yet no effective defense. But his arguments for striking first without giving warning (preventive war, preemptive attack) seems less valid today because not even the nation-destroying missiles can destroy a properly structured retaliatory system

which is automatic in its response. In other words, and this is a profound truth, given a proper emphasis by each side upon the protection of its retaliatory system, there is no victory through strategic bombardment—there is only mutual defeat.

Brodie recognizes this. Yet he does not draw from it the conclusions which seem warranted. He permits himself to discuss seriously such now irrelevant matters as preventive war, preemptive attacks and "blunting" attacks. In short, he lends support to the endless upward spiraling of instruments for strategic bombardment which can be justified if it is assumed that launching systems cannot be adequately protected from attack, and which is entirely unnecessary if they can be so



protected. This type of thinking is geared to the piloted bomber and the atomic bomb—not the ballistic missile and the thermonuclear warhead.

Even when discussing protection of the launching system, Brodie reflects the same unwillingness to draw realistic conclusions from his discussion. He recognizes that the Soviets have secrecy and that, because they do, simple dispersal and hardening of their missiles sites will provide them adequate protection. He recognizes that we do not have secrecy and that, consequently, dispersal in fixed locations and hardening will not protect our missile sites. But he recommends dispersal and hardening anyway. He recommends mobility too, but in the costly, re-

source-consuming air alert, or in such easily sabotaged forms as mounting missiles on mobile railroad cars or on barges moving in the inland waterways. He mentions Polaris but does not dwell on it and indeed tends to deprecate its value.

If Dr. Brodie shrinks from the conclusions which seem to be indicated by his incisive analysis, Dr. Oskar Morgenstern in a new book, *The Question of National Defense*, does not. Dismissing dispersal ashore and the hardening of SAC bases and missile sites, as well as the idea of mobility within the US, he advocates using the vast oceans as a base and placing principal reliance upon the fleet ballistic missile fired from submarines and the nuclear-powered seaplane, supported on the oceans from submarines acting as tenders.

Going on, Morgenstern says that it is in the interests of the US for the Soviets, too, to have an invulnerable retaliatory force. If both sides have such forces, neither has any encouragement to launch a preventive war or a preemptive attack. Moreover, the danger of an accidental conflagration is reduced. There could be no such thing as a "blunting" attack if the enemy's retaliatory system were invulnerable. And the invulnerability of one's own force would remove the need to launch a "counter" attack based upon nothing more than alarming indications which might easily be misleading.

Assuming that the power to execute a decisive attack can be achieved, that the US and the Soviet Union each regard its own and the other side's power as having this capability, and that both are able to make invulnerable the means to launch such a decisive attack—assumptions which Brodie's discussion seems to support—then we have maximum deterrence. But we have something more. We have the fact that a war of strategic bombardment is the ultimate futility; there is no victory—only mutual defeat. The only thing to do is to prepare personnel shelters and hope that if such a war occurs recovery will be possible. This is the price we must pay to deter overt, large-scale Communist aggression.

Reviewed by Col J. C. Murray

BRAVE MEN AND GREAT CAPTAINS

R. ERNEST DUPUY and TREVER N. DUPUY. 378 pages with 35 maps. Bibliography. Foreword by LtGen James M. Gavin, USA (Ret). Harper and Brothers, N. Y. \$5.95

The authors, father and son, have achieved a noteworthy career in the field of military writing since their respective retirements from the Army. One momentous result of their collaboration was *Military Heritage of America*. As a wide-ranging history of warfare, it undoubtedly provided the necessary research material for the present volume. Also unmistakable in this present work is the imprint of the authors' earlier historical work on the US Military Academy.

This one, however, addresses itself much more to the subject of combat leadership and more specifically, US Army leadership, from the Revolution through the Korean War. As a matter of service interest, there are only two mentions of "a handful of marines" throughout this history of American battles; nor is the word *Marine* to be found in the index.

In addition to the interest which all military men will find in this book, they will especially applaud the authors' generous use of sketch maps. No place is mentioned in the text that cannot be found on a map.

Reviewed by LtCol H. W. Edwards

THE PANTHER'S FEAST

ROBERT ASPREY. 294 pages. G. P. Putnam's Sons, N. Y. \$5.00

In the years before the outbreak of WWI an Austro-Hungarian General Staff officer sold out to the Russians, and by doing so, he nearly destroyed the military strength of his country. Austria lost the confidence of Germany at a crucial time, and the entire Austro-Hungarian Empire was demoralized by the scandal.

The Panther's Feast is the carefully documented story of the life of Alfred Redl, Deputy Chief of the Intelligence Bureau in Vienna, an officer with 32 years of service, a gentleman welcome in the finest military and civil circles who became the victim of his own personal corruption and thereby betrayed his country.

Reviewed by LtCol H. W. Card, Jr.

NEW DEVELOPMENTS IN ARMY WEAPONS, TACTICS, ORGANIZATION AND EQUIPMENT

MARVIN L. WORLEY. 378 pages, illustrated. The Stackpole Co., Harrisburg, Pa. \$3.95

This is a fine source for reference to a variety of subjects, giving concise and detailed information on many items of interest to Marines. It provides amazingly detailed unclassified data on current and future Army weapons and equipment, many of which are being or will be used by Marines. Considering this, the book would be especially useful as reference material in preparation of training lectures. In particular, the book could be put to good advantage in Reserve units and Marine Barracks type activities where adequate selections of current technical information are not always readily available.

Reviewed by 1stLt R. K. Biel

THE SOVIET NAVY

Edited by Cdr M. G. Saunders, RN. 340 pages, illustrated, maps and tables. Frederick A. Praeger, Inc., N. Y. \$7.50

The Soviet Navy, the product of 18 free world authors from eleven different countries of origin, is a survey of Russian sea power. Its scope is considerably broader than the title would at first suggest. Less than half of the 15 chapters deal specifically with the composition, characteristics and capabilities of the present-day Red Navy. The remaining chapters cover other elements of Soviet sea power, such as its merchant marine and shipbuilding industry, and the strategic framework within which the U.S.S.R. will presumably employ its expanding maritime strength.

Reviewed by Capt H. B. Seim, USN

UNEXPLODED BOMB

MAJ A. B. HARTLEY, M.B.E., R.E., 272 pages. W. W. Norton and Company, N. Y. \$3.95

This book provides a chronological account of British bomb disposal work in WWII and its aftermath. Of major significance is that the story has not been previously told in a book prepared for the average military reader. It is a story providing as many tales of skill and heroism as any other facet of WWII operations.

Reviewed by LtCol T. M. Burton

KITCHENER: Portrait of An Imperialist

PHILIP MAGNUS. 410 pages; illustrated; E. P. Dutton and Company, Inc., N. Y.

\$6.50

Horatio Herbert Kitchener, Viscount of Khartoum in the Sudan, and of Vaal in the Colony of the Transvaal, and of Aspull in Suffolk, was a soldier-imperialist par excellence during the closing days of a period when imperialism was at its peak. A lonely and mysterious bachelor, he found fulfillment in his work and permitted few distractions since he had an unabashed confidence in his own infallibility and a firm belief that he was defrauding the Almighty if he did not carry out his task. In today's world of fiery nationalism, Kitchener would find himself strangely out of style and completely out of step; but for a story of military service in another era, *Kitchener: Portrait of an Imperialist* makes interesting and enjoyable reading.

Reviewed by Col K. C. Houston

UP CAME HILL: The Story of the Light Division and its Leaders

JUDGE MARTIN SCHENCK; 344 pages, illustrated. The Stackpole Company, Harrisburg Pa.

\$5.75

Up Came Hill is a book about a man, Ambrose Powell Hill, who rose from colonel in the Virginia Volunteers in 1861 to Commander of the Third Corps.

The book cannot be classed as a study of tactics of the Light Division in that it is written in a lighter, more general, narrative vein. Half-way between the text book and novel, yet based soundly on fact, it provides excellent and interesting coverage of an important Civil War leader and his subordinate commanders.

Reviewed by Maj. E. S. Stallknecht

MY YEARS WITH CHURCHILL

NORMAN MCGOWAN; 170 pages, illustrated. British Book Centre, Inc., New York

\$3.95

Norman McGowan was Sir Winston Churchill's personal valet for three years, but the reader need not fear that he will find a keyhole view of a great man. The book is in good taste.

Reviewed by LtCol F. N. Grant, RM

THE FRENCH NAVY IN WORLD WAR II

RADM PAUL AUPHAN AND JACQUES MORDAL. 413 pages, maps, photographs, appendices, indexed. U.S. Naval Institute.

\$6.00

The French Navy in World War II—another of the Naval Institute's excellent studies on foreign naval operations—is a comprehensive probably definitive work the scope of which is exactly expressed in its title.

Among many matters of interest to Marine Corps readers, the book reveals the French Navy's persistent but unequal prewar battle for a balanced fleet, as a result of which France had well-trained and spirited naval aviation despite the continual chivvy which all the world's air forces (including our own) have historically pursued against maritime airpower.

But of most interest, from the Marine point of view, are the authors' frequent, obviously admiring, but unhappily passing references to the *fusilier-marins*, or French Marines. France had no Marine Corps as such after WWI, but from *The French Navy in World War II*, it appears that a kind of spontaneous regeneration occurred in the second world war.

All in all, *The French Navy in World War II* is a worthwhile, substantial, and interesting history which brings the spirit of the French Navy into a deserved focus well bespoken by its fine motto: *Valeur et Discipline—Honneur et Patrie*. The maps and illustrations are clear and apt, and the translation, by Capt A. C. J. Sabalot, USN (Ret), does full justice to the businesslike, crisp prose of the original.

Reviewed by Col R. D. Heinl, Jr.

THIRTEEN DAYS THAT SHOOK THE KREMLIN

TIBOR MERAY. 281 pages. Frederick A. Praeger, N.Y.

\$5.00

Not only does this book provide a compact account of the 1956 revolt of the Hungarian people and its brutal suppression, Meray describes as an inner Party member the Communist duplicity, intrigue, opportunism and disregard for either moral or international law.

Author Meray fled to Paris when the revolution collapsed. Although he broke with the Communist Party, he writes almost wistfully of what

the Marxist system could have been.

Reviewed by LtCol A. R. Cason

1914

JAMES CAMERON. 263 pages. Rinehart & Company, Inc., N.Y.

\$3.95

This is not a military history. Nor, indeed, is it a political, social or economic history. It is a little of all these. Mr. Cameron has created a mosaic. He has set a scene. He has unfolded to the reader's view a world about to be no more; a world headed toward the abyss of total war; a world in which the mass of people seemed strangely unaware of the portents; a world of "business as usual." There is, in particular, a prosperous, complacent England for whom the Irish question was the only cloud on the horizon.

The British Expeditionary Force's movement to the Continent and baptism of fire are adequately covered. Its experience in the initial advance, subsequent retreat, and its initiation to trench warfare are similarly given adequate treatment. The Schlieffen Plan, its failure, and the ensuing Battle of the Marne are noted in sufficient detail to remind the reader of the shape of things in those first months of the war. An interesting sidelight is the revelation of personality clashes among top French and English commanders.

Reviewed by Maj E. W. Payne

THE FORSAKEN ARMY

HEINRICH GERLACH, 384 pages. Harper and Brothers, N. Y.

\$3.95

"The duty of the men of Stalingrad is to be dead." These words spoken by Hitler to a very small group of officers at a luncheon in the spring of 1943 might be considered an epitaph for the men of the German Sixth Army. Of the more than 270,000 members of the 20 divi-

. . . A most engrossing book about a crack fighting force.

sions initially encircled by the Soviets in November 1942, only 91,000 were alive at the time of surrender on 2 February 1943; only 5,000 survived to the war's end.

Heinrich Gerlach was one of these. A schoolmaster by profession, Gerlach had served more than three years when Stalingrad fell.

Reviewed by LtCol W. F. Frank

Marine Corps Gazette • December 1959

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OBSERVATION POST

This department is for new, constructive ideas. They may be controversial; they must be short. Payment at regular rates on publication. Maximum, 60 dollars.



Haversack, Hava Yes

By Capt Peter R. Clapper

WHEN I ARRIVED IN KOREA IN OCTOBER 1951, I had never heard of a packboard. Like all other Marines, however, I had some experience with the haversack and knapsack.

I will never forget the DI at PI who tried to impress upon me the differences between the marching pack, the field marching pack, the transport pack and the field transport pack. No, I will never forget the DI, but I cannot for the life of me remember anything he said about packs. The only impression which lodged in my memory was the certainty that there must be an easier way to do it.

Well, there was, of course, and it was the packboard.

Being a simple guy, I like simple things. The packboard and I hit it off fine from the very first day I saddled up and faced my initial bout with the Hills of Korea.

I don't remember how we came to have packboards. Maybe the Army should get the credit. In any case, here was this light, sturdy and versatile device in one corner of the pyramid and my pile of gear in another.

As I was reluctantly trying to decide what to discard, an old salt with twice as much gear as I quietly began stuffing all his tattered belongings into his patched waterproof bag.

I just copied the salty one, and dumped everything in. When Salty tied the shoestring at the top of his bulging bag, I tied the shoestring at the top of mine. When he produced some tired comm wire and began to lash the bag to the board, I grabbed some off the deck and did likewise.

We ended up with a few Irish pen-nants, I will admit, but we were equipped to live for a month on the MLR in the miserable cold of a Korean autumn.

We hefted the loads onto our backs. I staggered a few paces before I got the hang of it, but the old packboard did most of the work from then on. This,

I decided, is the real Corps. That happy hockey back in the states with the suspender strap keepers, pack strap loops and flap strap buckles was just to get us fighting mad. Out here, boy, it's the can-do Marines. Gung Ho!

We went up the hill. There we stayed, largely by dint of supplies provided aboard packboards. Ammo, water, hot chow, we had plenty—thanks to the uncomplicated and comfortable packboard.

When winter came, my company was designated by the regiment to test new-style cold-weather gear. Among the fancy items we were issued back in reserve was the Alpine rucksack with its metal A-frame.



To get this Boy Scout's dream, we had to turn in our packboards. Not knowing any better, we let them go without a struggle. The struggle came later, when we tried to get the same load into the Alpine packs.

We left the First Marines enough of our pogybait and skivvy drawers to provide every man with a candy bar and a fresh change every day for the rest of his tour. I think they made good use of the candy bars.

Not only did I have to leave a lot of my belongings behind, but those I did take up the hill formed a hard knot at the bottom of the pear-shaped rucksack and just about pulled me off the hill. That sad sack hung so low that, to counterbalance it, I kept my nose about three inches from the hillside all the way up 884.

Well, by this time I was convinced. The Swiss are great at yodelling and their Alpine packs are probably spiffy

A TIP TO TIPSTERS

Observation Post needs practical "how-to-do-it" tips from the field. Sketches or pictures of field expedients are desired, with brief explanations of 500 words or less. Payment at regular rates. Published ideas will be noted by the Marine Corps Landing Force Development Center; they should also be submitted in accord with Para 17, MCO 3900.2A, to insure official consideration.

for an afternoon on the cog railway. But give me a packboard and a waterproof bag when you plan to stay on top of whatever it is you're climbing.

Came spring and we turned in all our experimental equipment, including the rucksacks which by that time were as indelibly engraved on my sacroiliac as on my memory. Happily, we were re-issued packboards and waterproof bags. It was as if the Marine Corps, by this gesture, was acknowledging the superiority of these over the Alpine abomination.

Breathlessly, I awaited an interview with some kind of Commandant's special *ad hoc* Committee-On-Special-Gear-Issued-To-Able-Company.

Nobody ever asked me anything.

Oh, well, I decided, the Commandant has probably reached the same conclusion. The packboard is the only practical answer to the infantryman's need.

I was rotated.

What was my first stateside view? A new draft standing by—in field transport packs, knapsacks and haversacks as far as the eye could see! I decided to play a waiting game.

Well, I have been waiting for almost eight years now. It is not the haversack which has disappeared. It is the packboard. The situation is intolerable

Why Keep the Special Court?

by LtCol R. S. Stubbs II

HARDLY A SESSION OF CONGRESS MEETS without a deluge of proposals to change the UCMJ; there's hardly a military bull session without loud and profane protests against the Code and all its indeterminate ancestors.

One must recognize that there are really two extreme views about the Code which are diametrically opposed. On the one hand are those who regard military law simply as a tool of discipline, nothing more; on the other, those attorneys, military and civilian, who would subject the military law to the same niceties as they fancifully believe are in the law governing civilian relations. Somewhere in between is an intelligent, practical, realistic and just system of law for the military community.

Just what are the requirements of a military discipline/justice system? First, is a means of exacting retribution for errors of commission and omission, for punishment of offenders. Second is a recognition of the need for speedy corrective action. Next, a system inherently simple in application, and economic in terms of personnel, time, and space. And, to satisfy the requirements of discipline, the immediate commanders involved must be able to employ the system in their own backyards. Last, to administer criminal justice, we need a judicial hearing, proper application of the rules of evidence, protection of the substantial rights of an accused, all subject to judicial review.

Let's apply these criteria to the current parts of the system. Non-judicial punishment under Article 15 easily satisfies the first four. By its very name it was not intended to be a judicial proceeding. It has worked well and effectively, except perhaps in the limitations on punishment of commissioned personnel by other than general officers. The proposals to add fines might well meet a deaf ear by the Congress. The original draft of the Uniform Code included these and yet found no vocal support in the Congressional hearings.

HAVERSACK

to packboard supporters. I can bear the burden of the haversack in silence no longer.

As I have indicated, I am sure that the packboard has not been relegated to Barstow and Albany as impractical. Therefore, I have cast about for the cause of its banishment.

Is the packboard too uncouth for stateside use? Its corners are by manufacture squarer than the haversack's,

In any event, the power to reduce inevitably involves a loss of pay. The merits of adding confinement or bread and water have already been debated and voted down.

By the same tests, the summary court-martial is found wanting in but the last particular. Although styled a judicial proceeding, there is no right to counsel guaranteed the accused. There is no inhibiting rule as to accusers. The court officer himself generally lacks the legal training associated with a judicial officer. Still the summary court is very like civilian criminal courts at the lowest level. There, one seldom finds a justice of the peace or magistrate whose legal training or experience equals that demanded of a judge of a court of record. The point is to dispose speedily and effectively of minor offenders. Trial by jury is not included, nor should it be.

By these criteria, the special court-martial fares poorly. Admittedly, it does provide an intermediate level between the summary and general courts. It is open to criticism because of the application of the accuser concept, the demands in terms of personnel, the ponderosity with which its proceedings take place, and the almost blind groping of the people involved to perform their functions properly. One seldom sees a contested case which does not mirror the effort called forth as inexperienced and legally untrained officers attempt to fulfill their obligations to both the accused and the government.

The situation has increased in complexity because of the removal of the Manual for Courts-Martial from the court. How can error be kept out of a record when rulings on evidence and motions, instructions on elements of the offense, affirmative defenses, and other legal questions must be made by one whose primary qualifications lie in other areas? This is not to say that the law is such a mystery that only a chosen few may serve as its oracles; but it is clearly a fact that three years of post-

graduate law training would hardly be required if the law were so simple that any person chosen at random could resolve issues raised in a judicial proceeding. A special court-martial is not a judicial proceeding in truth and calling it so won't make it so. The interests of the government in prosecuting offenders, the rights of an accused brought to trial, and fairness to those now held responsible for the correctness of proceedings deserve more consideration.

So: Why not abolish the special court-martial? Why not indeed? Congress would have to make some changes in the UCMJ. One of these would certainly be to increase the punishment authorized by a summary court-martial. Something in the order of three months confinement and three months forfeitures seems reasonable; this is about the average punishment by special courts-martial.

The other side of the coin, if the special court be done away with, is an increase in the number of general courts. The general fear of general courts should further deter offenses. The formal pre-trial investigation will be a burden to COs. Still, it takes only one officer instead of five for a special court. The negotiated plea and the hoped-for amendment of the Code to permit one-officer general courts for guilty pleas would help, too. The workload for legal officers will surely aggravate the shortage of lawyers. Changes in assignment procedures for legal officers and use of area, rather than command, legal offices can help here.

It has been the repeated experience of legal officers that battalion and squadron level commands will welcome any relief from the special court burden. This is not an abdication of command responsibility; it just recognizes a problem not of discipline, but of criminal law.

The special court causes a multiplicity of difficulties, not the least being resentment towards an otherwise creditable system. It is a cancer; the cure is removal from the body of military law.

USMC

Staff Hq, 14th ND
Navy #128
c/o FPO San Francisco

even when the latter is stuffed with a Kellogg's Corn Flakes box. Uniform methods of rolling the waterproof bag and of lashing it to the board can easily be worked out. No, it could not be that Headquarters has decreed the packboard too uncouth for public display.

Perhaps it is simply that so many canvas bags have been produced that generations of Americans are doomed to

suffer until the sacks are worn out and surveyed.

In the interest of economy, this makes good sense. But the real reason may well be that the haversack will continue to make Marines so mean that their famous fighting edge will perhaps be sharper than if they enjoyed the comforts of the packboard.

USMC

Division of Information
HQMC



OBSERVATION POST

CONTINUED

Wanted: More 'Candy Bar Kids'

by AGy Sgt W. C. Tobin

☛ NO MORE IS THE INTELLIGENCE SCOUT "the best damn soldier in the outfit." Today he is a high-powered technician capable of manning a complicated electronics device that theoretically will detect the enemy if he comes into range. Time was when the scout was the far-ranging "eyes" of the commander, with the mission of seeking out the enemy and reporting his information for evaluation along with the reports of other scouts. Of such things was intelligence made.

So rare has become the versatile and resourceful scout who could move about the combat area with stealth and keep his presence unknown to the enemy, that the "Candy Bar Kid" both thrilled and amazed civilians and soldiers alike. Not since the exploits of Col Shofner on Mindanao became known did the American public realize the potential of the well-trained man facing adversity.

The American youth still has that potential, and the Marine Corps is best suited to develop that potential. Today's Marine is the best educated and most physically fit in our history. But, alas, his resourcefulness leaves much to be desired. Escape and evasion courses and constant repetition of the Code of Conduct, which requires a man to continue the struggle no matter what may befall him, do only a small part of the job that needs to be done. Only training can be the answer. Constant, vigorous training as scouts, with all the many and varied skills of the scout, can give results. Training from the earliest days of being a Marine must be aimed not only at making a man proficient with his equipment, but also proficient without it.

While in Korea, many of us caught ourselves secretly admiring the Chinese for his skill at improvising. His tenac-

ity he used as a weapon to harass us. His ability to do without was reminiscent of our own pioneer days of early America. We admired it because we recognized it for what it was worth. The rapid advances of science are robbing us of this traditional American skill and dampening our pioneering spirit.

Let's get the scout back to scouting. Make him again the "eyes" of the commander. Allow him to once more range forward of the MLR, FBHL or the perimeter as the case may be. Charge him with the task of seeking out the enemy in his haunts and be able to *know* what he sees, be able to *report* what he sees, and be able to *move* himself with stealth, keeping his presence hidden from the enemy.

Man is not born with these abilities; they are skills and thus *must* be taught. Deliver the battalion intelligence scouts from electronic detection devices, drafting boards and air photo kits. Put them back in the field. **US & MC**

1stBn, 8th Marines
2dMarDiv, FMF
Camp Lejeune, N. C.

'Copters at Ground Level'

by T. K. Thomas

☛ IN OPERATION INLAND SEA AMPHIBIOUS exercise against Edgewater Beach at Cleveland, Ohio, Marine Helicopter Assault forces carried out a brisk and spectacular troop landing operation. It was easily one of the high spots of the show from the spectator standpoint.

Afterwards, one of my friends remarked to me (knowing that I had served as a Marine helicopter pilot during the Korean War):

"If I'd been an enemy gunner, from where I was standing back of the beach, those 'copters would have been sitting ducks!"

And he asked me, "How about that? Do you Marines actually think you can bring helicopters into an open beach like that under combat conditions?"

I had to explain that as far as I knew, a Marine helicopter assault landing of that type had never been performed in battle, so the real beachhead vulnerability of the craft had never been tested. I told him that helicopter tactics envision landing zones which have been

neutralized, at least temporarily, by supporting fires, either from air or sea. Finally, I reminded my friend that the "demonstration landing" was just what the name implied—an exhibition of landing force techniques, among them the helicopter assault team method.

The discussion, however, caused me to reflect in general upon the various vulnerabilities of the helicopter. I felt at least comfortably qualified to do this, as a veteran pilot of HMR-161 in Korea, and also of HMR-263, which in the fall of 1952, during LANTFLEX problems, participated in the first combined helicopter assault on long-suffering Vieques Island.

If memory serves me, the umpires later informed us that we had lost a third of our first-wave 'copters to enemy air in that operation. In addition, the surviving first-wave 'copters had delivered their troops into the hands of the "enemy," which had infiltrated the landing zones.

We continued the operation for

training purposes, but many of us reflected at the time that the van of an assault wave was no fit place for the helicopter.

This was a common-sense conclusion, we felt. The helicopter has been called by many functional names in its brief time, but the term "flying tank" has not been one of them. A helicopter assault landing is conceived as using the indirect protection of total surprise, or the direct protection of conventional supporting fires.

Upon further reflection about my experiences during various TRAEX operations, I concluded that *what really concerned us the most* as individual pilots, was the vulnerability of the helicopter to collision, either with ground objects such as trees, poles, hillsides and so forth, or with other helicopters.

This tactical weakness of the helicopter lies mainly in its rotor system. Two landing barges, for instance, may bump together with no more serious results than scraped gunwales and angered coxswains. Trucks and jeeps may collide, with a mashed fender as the main damage. Collisions under the above circumstances do not as a rule

Protection Paperwork

by Lt R. A. Gurnsey, USN

ECONOMY IS ONE OF THE WATCHWORDS of our times. Then why do we pursue the uneconomical practice of officers in the armed forces spending much of their time filling out "protection paperwork"? For the purpose of this paper, "protection paperwork" may be loosely defined as reports and letters which go to make up files which "show conclusively" that things are being done properly. "Of course it has been done, sir! I have negative reports from all units."

Before continuing, perhaps it is best to establish several points. First, this is to be in no way construed as criticism of civilian political control of our armed forces, for this arrangement is at the very heart of our most excellent system of government. Secondly, this is not to be construed as against the elected representatives of our people looking into the defense of the nation in all its aspects, for this is one of the most important jobs that they were entrusted with. Finally, any report or tabulation that serves to establish readiness evaluation, account for monies, guide procurement, or is utilized to evaluate procedures in view of their improvement is certainly necessary. The officers of the armed forces would be the first group to agree.

Now on to some more specific proposals in alleviating this situation. Primarily it will require a change in attitude throughout the armed forces. The officers at the various levels of command will have to have faith in their juniors carrying out their responsibilities. Take for an example only, instead of submitting periodically a "Statistical Report of Religious Services Held" to senior staffs, let the various staffs accept that the officer is not going to deny his men their faith. After all, Navy Regulations say that he shalt not. This

is but one example of "protection paperwork" and few officers will have to search their minds deeply to recall other examples.

Any solution will require vigorous work in two more areas. One is to indoctrinate civilian control agencies that the personal word of the officer at the head of a chain of command can be taken at face value. It isn't meant to imply that these men are untruthful. Far from it. But they must be believed without volumes of data on IBM cards at their elbows. This should be easiest to obtain by never giving them any cases where an officer's word was found to be incorrect.

This brings us to the second area. Each officer must conduct himself so that his seniors can trust him implicitly. They must be able to rely upon him to know his job and its basic publications so well that constant guidance is not necessary. It will no longer suffice for an officer to expect all cautions and queries to come from above. Even though the system has taught him to expect this he must himself think of these cautions and queries. The officer must truly live so that he bears the strain. He must never let his senior say that something is so and then have it exist that it is not so with him. This will require that each officer spend long hours re-evaluating himself and his job, for it is up to him to prove every day in every way that he is capable of succeeding without excessive guidance.

Now let us suppose that this bit of work has been wrought. Each officer in the chain of command is secure in the knowledge that all is well beneath him. He is confident that his subordinates have carried out their tasks. He is ready to state to his seniors that the basic duties and requisites of leadership,

economy of material, and all the many smaller items have been done in his command. Furthermore he is sure that his seniors will not be embarrassed or injured in any way by his unit's performance. The civilian control agencies are confident that their laws are being carried out in letter and in spirit. What has been gained?

Certainly the economies wrought by the reduction in paperwork would be welcome and would allow better use of men and money. The officer could spend less time at his desk and more time with his men and equipment. He would have a greater sense of attainment and a greater respect for positions of responsibility.

Another economy would come as a by-product. The officer would have more time to devote to making training time of value. Wardroom discussions could be on the topic of how to play the game in the next exercise problem, instead of, "Did you get this report done? Did you get this letter in?" How many officers have at the end of an exercise, remarked, "Why didn't we think of that?" after some neat trick has been pulled by the opposing force? This "neat trick" is a capability of each wardroom or unit.

Let's return the officer to the warrior-leader class. While this *protection paperwork* imposes an extra burden upon the armed forces as a whole, it is doubly harmful in that it instills mediocrity in the officers. By the reduction of paperwork we can get more value out of our armed forces. Certainly the key lies within the individual officer. He must re-evaluate himself, re-learn and live by the traditions and standards of a professional officers corps. And one thing more—it goes without saying that the words *non-commissioned officer* can be substituted everywhere for the word officer.

USMC

US Naval Post Graduate School
Monterey, Calif.

COPTERS

put the vehicles concerned out of action.

But the moment the whirling rotor blades of the helicopter come in contact with a solid object, the result is major damage, probable injury, and possible loss of life.

This violent feature of rotor blade systems makes formation flying far from a dull, routine activity. The pilots must be unusually alert. However, tens of thousands of hours of formation work, both day and night, have been flown by Marine helicopter pilots without serious accidents. The reason for this is, of course, the high degree of skill and training.

The helicopter pilot, of course, lives with this danger whenever he is airborne. The pilot, as he logs more time in assault formation work, soon learns to know instinctively the "safe clearance" area of his rotor blades in much the same way a skilled cab or truck driver knows the clearance of his vehicles to a fraction of an inch. But the hazards of blade clearance form a particularly limiting factor in night ground level work.

I believe, therefore, that the real future of such tactics lies in the practical perfecting of vehicles like the recently

publicized "Air Car," which operates on the ducted-fan principle. Such a true "aerial jeep" or truck could jostle around in the tight places without the danger of major damage resulting from a nudge against a tree-trunk, for instance, or an impatient bump from the "Air Car" immediately behind!

Such vehicles would not require as high a degree of piloting skill as the helicopter now requires; this would simplify at least one training and manpower problem.

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